6.B.7.c

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES IN THE STATE OF NEW YORK PHASE I INVESTIGATIONS

OBERDORFER FOUNDRIES

TOWN OF DEWITT, ONONDAGA COUNTY NEW YORK Site Code:734017

APRIL 1986



Prepared for:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

50 WOLF ROAD, ALBANY, NEW YORK 12233
HENRY G. WILLIAMS, COMMISSIONER

Division of Solid and Hazardous Waste HORMAN H. NOSENCHUCK, P.E. DIRECTOR



ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES IN THE STATE OF NEW YORK PHASE I INVESTIGATIONS

OBERDORFER FOUNDRIES
TOWN OF DEWITT, ONONDAGA COUNTY, NEW YORK
SITE CODE: 734017

Prepared for

DIVISION OF SOLID AND HAZARDOUS WASTE

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

50 WOLF ROAD

ALBANY, NEW YORK 12233-0001

Prepared by

WEHRAN ENGINEERING, P.C. 666 EAST MAIN STREET MIDDLETOWN, NEW YORK 10940

WE Project No. 01424339

April 1986

OBERDORFER FOUNDRIES

TABLE OF CONTENTS

			Page Number
1.0	EXECUTIVE SUMMARY		1-1
2.0	PURPOSE		2-1
3.0	SCOPE OF WORK		3-1
4.0	SITE ASSESSMENT		4-1
	4.1 Site History4.2 Site Topography4.3 Site Hydrogeology4.4 Site Contamination	a	4-1 4-1 4-2 4-3
5.0	PRELIMINARY APPLICATION OF THE HAZARD RANKING SYSTEM		5-1
	5.1 Narrative Summary		5-1
6.0	ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS		6-1
	 6.1 Groundwater Route 6.2 Surface Water Route 6.3 Air Route 6.4 Fire and Explosion 6.5 Direct Contact 		6-1 6-1 6-2 6-2 6-2
7.0	PHASE II WORK PLAN		7-1

APPENDIX

1.0 EXECUTIVE SUMMARY

1.0 EXECUTIVE SUMMARY

The Oberdorfer Foundries site is located on Thompson Road, south of Carrier Circle, in the Town of DeWitt, Onondaga County. The site is located in a heavily industrialized/commercialized area. Two dumps, one inactive and the other active, are situated in the facility back yard. The total area of the current site is 3.75 acres. The company has been located at this site since 1922. Aluminum and brass items are cast for use in engine assemblies and small centrifugal pumps are manufactured at this site.

Typical of foundry operations, the manufacturer disposed of spent core sands, molding sands, contaminated sand, refractory linings, bentonite and binder clay, metal oxides, metal scraps including A1-fines, and baghouse dust. The active dump presently receives various grades of sand, which contain different chemical binders such as phenolic resins.

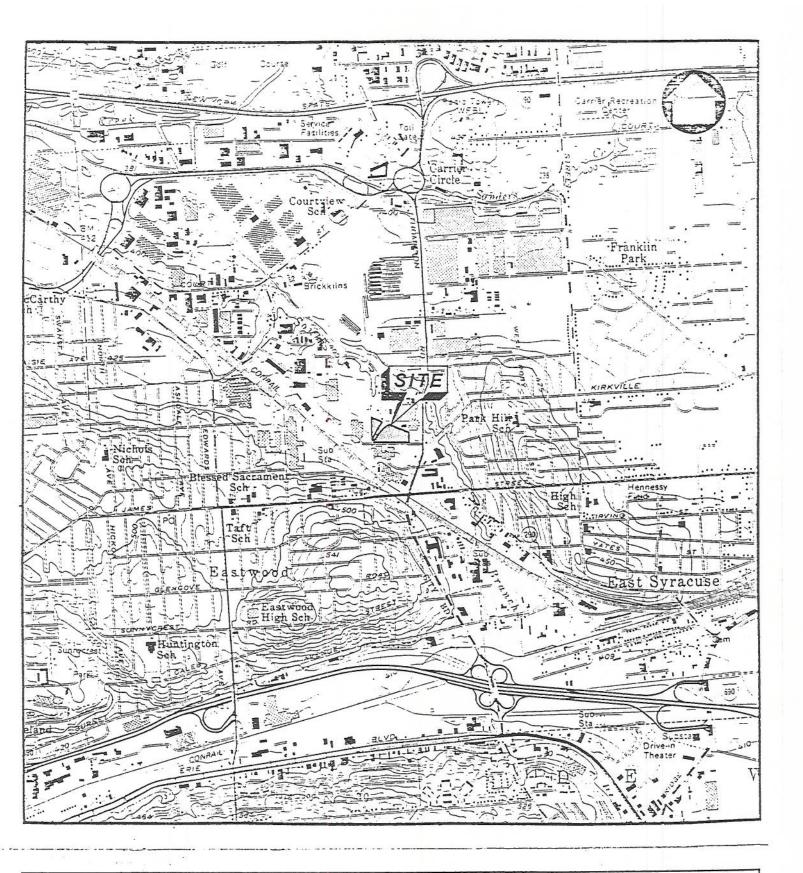
A survey of federal, state and local files, in conjunction with a review of Oberdorfer Foundries Inc. files, reveals some information regarding this site. A site investigation was conducted on March 18, 1985 by Wehran Engineering. The inactive site was covered with heavy vegetation and the active site was essentially devoid of vegetation. No ponding of water or leaching from the sites was observed.

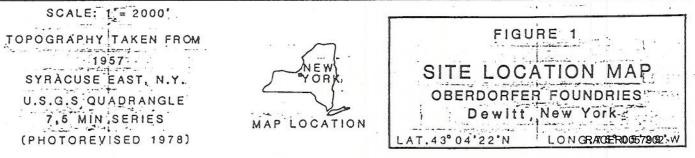
Access to the facility is restricted by fencing and plant security systems. The north side of the landfill site is the only side bordered by the facility fence. The area in close proximity to the site is served by a public water supply system. Some private wells are reportedly located within a three-mile reach of the site.

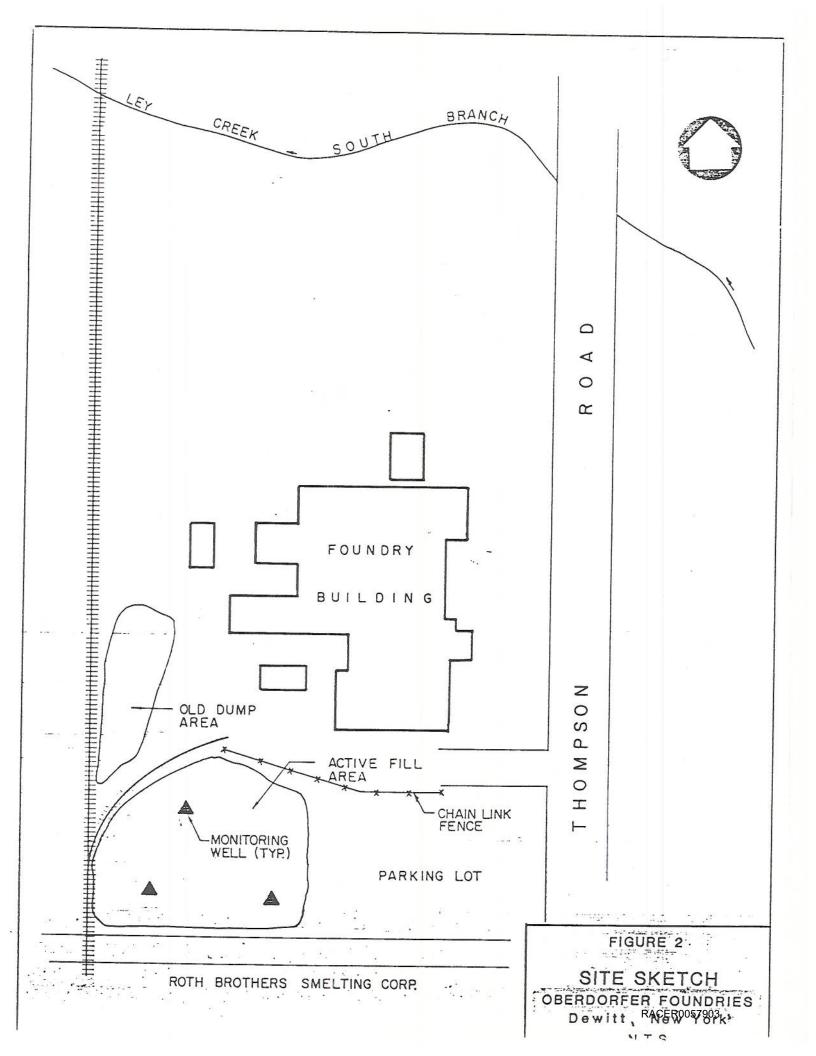
Oberdorfer Foundries Inc. has studied the potential leachate effects due to their sand disposal operation. Groundwater wells were installed and sampled in the active fill area. All parameters sampled were below Class GA groundwater standards, with the exception of total phenols (maximum concentration measured was 0.122 mg/l on February 25, 1981). Sampling of surface waters revealed phenol concentrations in excess of applicable State Water Quality Standards (maximum concentration measured was 0.003 ppm in 1979); however, there is no background data for comparison.

There is a potential for contaminants to reach the South Branch of Ley Creek due to possible leaching of substances. It is also possible, depending on well locations, that some contamination of private wells may occur.

Based on a review of available data and site inspection, a preliminary Hazard Ranking System (HRS) score for this site is $\rm S_{\c M}$ = 12.32







2.0 PURPOSE

2.0 PURPOSE

This Phase I investigation was conducted under contract to the New York State Department of Environmental Conservation Superfund Program to evaluate the potential environmental or public health hazard associated with past and current disposal activities at the Oberdorfer Foundries. Divided into two parts, this initial investigation consisted of a detailed file review of available information and an initial site investigation. The culmination of this phase is the development of a preliminary Hazard Ranking System (HRS) score.

Where information is lacking and a final score cannot be computed, recommendations will be made for a Phase II investigation designed to verify the assumptions made in the preliminary scoring and to collect the additional data needed to complete the site assessment.

3.0 SCOPE OF WORK

3.0 SCOPE OF WORK

To complete the preliminary HRS score for the Oberdorfer Foundries, the following scope of work was completed:

A review of the following:

- Available information from federal, state, and municipal agencies
- Published documents from the U.S. Geological Survey, Soil Conservation Service and state agencies for geological, hydrological and topographical data
- Available files, reports and court cases
- . Interviews with individuals having knowledge of the site

Information gathered included well logs, land use data, water usage patterns, critical habitats and endangered species data, meteorological data, hydrological, geological and topographical data, waste characteristics and demographic information.

Following an initial file review a site inspection was conducted. The intent of the inspection was to verify existing file information. Items of specific interest in the site investigation were:

- Overall site environmental conditions
- The presence of disturbed areas
- Visual signs of waste materials (drums, sludges, etc.)
- . The occurrence of leachate
- Site topography

A detailed analysis was performed on all data collected in preparation of a preliminary HRS score. Where information was lacking and a final HRS score could not be computed, recommendations were made for a Phase II

investigation. This investigation was designed to verify the assumptions made in the preliminary scoring and to collect the additional data needed to complete the site assessment. A summary of agencies contacted, contact person, address and information obtained follows.

SOURCES -- OBERDORFER FOUNDRIES, INC. (Page 1)

Name/Address/Phone	Type of Contact	Date	Information Provided
Mr. Robert Abrams, Attorney General New York State Attorney General Department of Law State Capitol, Room 221 Albany, New York 12224 (518) 474-7330	Letter	8-24-84	None available
Dr. David Axelrod, Commissioner New York State Department of Health Tower Building, Empire State Plaza Albany, New York 12237 (518) 474-8427	Letter	8-24-84	Map and names/addresses of regional offices
Mr. Jeff Banikowski Onondaga County Health Department 421 Montgomery Street P.O. Box 1325 Syracuse, New York 13202 (315) 425-3233	Telecon	6-10-85	No groundwater use in the vicinity; No information on use of aquifers, wells or irrigation
Mr. Joseph Barry, Director New York State Northern Regional Office Syracuse Area Office New York State Department of Health 351 South Warren Street, 7th Floor Syracuse, New York 13202 (315) 428-4744	Letter	8-24-84	None available
Mr. Garfield L. Casciano Commissioner Town of DeWitt P.O. Box 4811 Syracuse, New York 13214	Letter	9-11-84	None available
Mr. John Czapor, Environmental Engineer USEPA, Region II 26 Federal Plaza New York, New York 10278 (212) 264-1573	Letter	8-24-84	None available
Mr. Paul Dodd, State Conservationist U.S. Department of Agriculture Soil Conservation Service James M. Hanley Federal Building 100 South Clinton Street Syracuse, New York 13260 (315) 423-5521	Letter	8-24-84	Status of New York soil surveys New York Directory of SCS Personnel

SOURCES -- OBERDORFER FOUNDRIES, INC. (Page 2)

Name/Address/Phone	Type of Contact	Date	Information Provided
Dr. Robert H. Fakundiny State Geologist Geological Survey of New York State State Education Department Division of Museum Services Albany, New York 12230 (518) 474-5816	Letter	8-24-84	Names/addresses of contacts
Mr. William A. Harris, M.D. Commissioner Onondaga County Health Department 421 Montgomery Street P.O. Box 1325 Syracuse, New York 13202 (315) 425-3252	Letter	8-24-84	None available
Mr. Gary G. Hayes, Executive Director Central New York Regional Planning and Development Board 700 East Water Street Syracuse, New York 13210 (315) 422-8276	Letter	8-24-84	None available
Mr. James L. Larocca, Commissioner NYSDOT 1220 Washington Avenue Albany, New York 12232 (518) 457-4422	Letter	8-24-84	Procedural outline for obtaining information, NYSDOT regional map, List of regional administrative officers
Mr. Lawrence A. Martens District Chief U.S. Department of the Interior U.S. Geological Survey Albany District Office P.O. Box 1350 U.S. Post Office and Court House Albany, New York 12201 (518) 472-3107	Letter	8-24-84	List of publications of the geological survey
Mr. Les Monostorn Syracuse-Onondaga Planning Agency (315) 425-2611	Telecon	9-12-84	Following information is available at the civic center: General maps of county, Natural resources inventory maps, Aerial photos, Soil maps

4.0 SITE ASSESSMENT

4.0 SITE ASSESSMENT

4.1 SITE HISTORY

The Oberdorfer Foundries site is located on Thompson Road, south of Carrier Circle, in the Town of DeWitt, Onondaga County. The company, which has been operating at this site since 1922, casts aluminum and brass items used in engine assemblies and manufactures small centrifugal pumps. Foundry operations include sand molding, core making, metal melting and pouring, cleaning and machining.

There are actually two dumps located in the back yard of the facility. One is an inactive dump, which was filled, graded, seeded and is now covered with heavy vegetation. The other is an active dump site located to the southeast of the old disposal area. The dumps reflect the historical change of foundry metals: in past the foundry cast bronze and magnesium and now it casts brass and aluminum. The total acreage of the current site is approximately 3.75 acres.

Typical of foundry operations, the manufacturer disposed of spent core sands, molding sands, contaminated sand, refractory linings, bentonite and binder clay, metal oxides, metal scraps, including A1-fines, and baghouse dust. The active dump receives various grades of sand, containing different chemical binders (phenolic resins, such as phenol-formaldehyde, phenolicocyanate, phenol-urea and sodium-solicate).

4.2 SITE TOPOGRAPHY

The terrain in the vicinity of the plant is generally flat due to its location within the drainage basin of the South Branch of Ley Creek. Most land in the area is reclaimed swamp land which was filled to an approximate elevation of 409 feet.

The present disposal site is graded to an average elevation of 417 feet. A section of the landfill has been mounded to an elevation of 425 feet. The average slope of the fill surface is six percent. Reportedly, very little runoff is evident due to the porous nature of the sand. Site drainage is toward the South Branch of Ley Creek.

The site is not completely fenced. Only the north side is bordered by the facility fence.

4.3 SITE HYDROGEOLOGY

Oberdorfer Foundries Incorporated is located within the physiographic boundary of the Ontario-Mohawk Lowland. The area is generally flat without any dominant trend to landforms. The soils in the vicinity of the site have been classified as "Urban" by the Soil Conservation Service. These soils are too variable for valid interpretation and an on-site investigation is needed for classification. Three monitoring wells were installed on the site in 1981 by Parratt and Wolff Inc. Borings to a depth of 21.5 feet revealed brown moist very loose to medium dense fine to medium sand, some fine to medium gravel, moist dense silt and some peat. Cinders were found to a depth of 6.5 feet. Most land in the area is reclaimed swamp land which would account for the moist dense silt found in borings B-2 and B-3. A shallow water table exists in this unconsolidated deposit at a depth of eight feet below surface. According to Parratt and Wolf, Inc., the hydraulic gradient of groundwater, although very flat, is southeast. However, based on the topography in the vicinity of the site (Figure 1), a more direct route would be to the northeast towards the South Branch of Ley Creek. Permeability of the waste foundry sand is 5.20×10^{-3} cm/sec. The sand was visually classified as brown-gray fine sand, trace silt and metal waste.

Based on the records of selected wells in the Eastern Oswego River Basin (USGS Report ORB-2, 1970), there are approximately eight wells completed in the unconsolidated sand and gravel overburden at an approximate distance of three miles from the site. These wells yield 11 to 20 gpm and range in depth from 19 to 50 feet. Reported water levels range from seven to 23 feet below ground surface.

Regional geologic maps indicate that this area is underlain by the Middle Shale unit consisting of the Camillus shale formation which is 350 feet thick underlain by the Vernon Shale formation which is 500 feet thick. The Camillus Shale consists of gray thin-bedded shale, beds of gypsum, salt and dolomite. The Vernon shale consists of red soft shale, beds of green shale, gypsum and dolomite. Typically, the depth to Middle Shale unit in this region is 10 to 50 feet. However, site-specific depth is unknown.

Yields of individual wells in the Camillus Shale range from one to $245\;\mathrm{gpm}$ with a median yield of $20\;\mathrm{gpm}$.

Typically the water quality is hard and contains excessive sulfate. The site is also located in a region where salty water is likely to occur within the upper 100 feet of bedrock.

Based on the USGS Report ORB-2, 1970, there are approximately five wells completed in the Middle Shale Unit at a distance of three miles from the site. These wells range from 25 to 65 feet deep and yield six to 30 gpm. Reported water levels range from two to 40 feet below ground surface.

The hydrogeologic data obtained for this report suggest that the unconsolidated and bedrock aquifer are used equally for water supply within this region. It is recommended that both of these aquifers be considered as the aquifers of concern.

4.4 SITE CONTAMINATION

Oberdorfer Foundries Inc. has studied the problem of potential leachate effects due to their sand disposal operation. The active dump receives various grades of sand, containing different chemical binders (phenolic resins, such as phenol-formaldehyde, phenol-isocyanate, phenol-urea and sodium-silicate).

No leachate was observed near the Oberdorfer dumps during the site visit conducted by Wehran Engineering on March 18, 1985. If any phenols were being leached from the sands, the leachate would show up in the groundwater and/or Ley Creek.

Groundwater wells were developed and sampled in accordance with "Procedures Manual for Groundwater Monitoring at Solid Waste Disposal Facilities" (EPA/530/SW-611). All parameters sampled were below Class GA groundwater standards, with the exception of total phenols (maximum concentration measured was 0.122 mg/l on February 25, 1981). Phenols are present in the waste core and molding sands, but the potential impact on groundwater attributed to these sands is impossible to determine without background water quality data. Samplings of surface waters near the active site revealed phenol concentrations in excess of applicable State Water

Quality Standards (maximum concentration measured was 0.003 ppm). However, no upstream sample was collected, and therefore this cannot be considered a direct release to surface water from the site. This sampling study was conducted on May 17 and June 25 of 1979.

At the present time there are three wastewater outfalls into Ley Creek, from process and cooling waters, which are included on the company NPDES permit. The foundry is presently modifying its water usage to eliminate these flows.

Other operations at the plant which generate waste products are handled in environmentally acceptable ways. Waste oil is used for dust control, metal scrap is recycled and solvents, such as 1,1,1-Trichloroethane, are recovered.

Although it appears that this site does not contribute significantly to nearby surface water contamination, there is a concern with regard to the potential hazard associated with possible groundwater contamination due to phenolic compounds leaching from landfilled foundry sands.

The immediate vicinity is serviced by a public water supply system with its surface water source located more than three miles from the site. Several private wells reported within the three-mile radius could potentially be affected.

5.0 PRELIMINARY APPLICATION OF THE HAZARD RANKING SYSTEM

. . .

5.0 PRELIMINARY APPLICATION OF THE HAZARD RANKING SYSTEM

5.1 NARRATIVE SUMMARY

The Oberdorfer Foundries site is located on Thompson Road, south of Carrier Circle, in the Town of DeWitt, Onondaga County. The company, which has been operating at this site since 1922, casts aluminum and brass items used in engine assemblies and manufactures small centrifugal pumps. Foundry operations include sand molding, core making, metal melting and pouring, cleaning and machining.

There are actually two dumps located in the back yard of the facility. One is an inactive dump, which was filled, graded, seeded and is now covered with heavy vegetation. The other is an active dump site located to the southeast of the old disposal area. The total acreage of the current site is approximately 3.75 acres.

Typical of foundry operations, the manufacturer disposed of spent core sands, molding sands, contaminated sand, refractory linings, bentonite and binder clay, metal oxides, metal scraps, including A1-fines, and baghouse dust. The active dump receives various grades of sand, containing different chemical binders (phenolic resins, such as phenol-formaldehyde, phenolic socyanate, phenol-urea and sodium-silicate).

The terrain in the vicinity of the plant is generally flat due to its location within the drainage basin of the South Branch of Ley Creek. Most land in the area is reclaimed swamp land which was filled to an approximate elevation of 409 feet. Reportedly, very little runoff is evident due to the porous nature of the sand. Site drainage is toward the South Branch of Ley Creek.

The site is not completely fenced. Only the north side is bordered by the facility fence.

Oberdorfer Foundries Incorporated is located within the physiographic boundary of the Ontario-Mohawk Lowland. The area is generally flat without any dominant trend to landforms. The soils in the vicinity of the site have been classified as "Urban" by the Soil Conservation Service. Borings to a depth of 21.5 feet revealed brown moist very loose to medium dense fine to

medium sand, some fine to medium gravel, moist dense silt and some peat. A shallow water table exists in this unconsolidated deposit at a depth of eight feet below surface. Permeability of the waste foundry sand is 5.20×10^{-3} cm/sec.

Regional geologic maps indicate that this area is underlain by the Middle Shale unit consisting of the Camillus shale formation which is 350 feet thick underlain by the Vernon Shale formation which is 500 feet thick. The Camillus Shale consists of gray thin-bedded shale, beds of gypsum, salt and dolomite. The Vernon shale consists of red soft shale, beds of green shale, gypsum and dolomite.

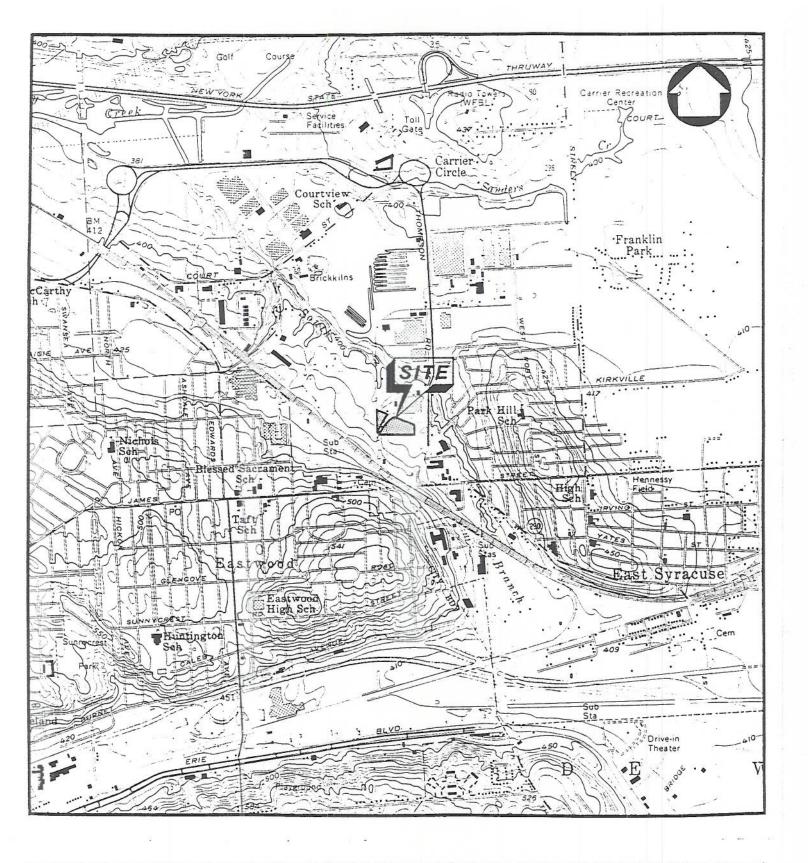
The hydrogeologic data obtained for this report suggest that the unconsolidated and bedrock aquifer are used equally for water supply within this region. It is recommended that both of these aquifers be considered as the aquifers of concern.

A site investigation was conducted on March 18, 1985 by Wehran Engineering. Ms. Linda Palladino and Mr. Kevin Burger of Wehran Engineering and Mr. Robert Wolf, Plant Engineer at Oberdorfer Foundries, Inc., were present during the visit. The inactive site was covered with heavy vegetation and the active site was essentially devoid of vegetation. No ponding of water or leaching from the sites was observed.

Groundwater wells were developed and sampled. All parameters sampled were below Class GA groundwater standards, with the exception of total phenols (maximum concentration measured was 0.122 mg/l on February 25, 1981). Samplings of surface waters near the active site revealed phenol concentrations in excess of applicable State Water Quality Standards (maximum concentration measures was 0.003 ppm). The surface water sampling study was conducted on May 17 and June 25 of 1979; however, no background data exists.

There is a concern with regard to the potential hazard associated with possible groundwater contamination due to phenolic compounds leaching from landfilled foundry sands. The immediate vicinity is serviced by a public water supply system with its surface water source located more than three miles from the site. Several private wells reported within the three-mile radius could potentially be affected.

LOCATION



SCALE: 1'= 2000'

TOPOGRAPHY TAKEN FROM 1957 SYRACUSE FAST N.Y.

SYRACUSE EAST, N.Y. U.S.G.S QUADRANGLE 7.5 MIN SERIES

(PHOTOREVISED 1978)

NEW YORK MAP LOCATION FIGURE 1

SITE LOCATION MAP
OBERDORFER FOUNDRIES
Dewitt, New York

LAT.43° 04'22'N L

LONG.76°05'29'W RACER0057920 HRS WORKSHEETS

Facility Name: Oberdorfer Foundries, Inc.

Location: Syracuse (DeWitt), Onondaga County, New York

EPA Region:

II

Person(s) in Charge of the Facility: Mr. Kevin Digney - President

Name of Reviewer: Linda M. Palladino Date: June 1985

General Description of the Facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

One active landfill; one inactive landfill; on the active site, waste from aluminum castings include: spent sands, binders, waste oil, metal scraps (now recycled), solvents (now also recycled), binder clay, and phenolics.

Scores:
$$S_{M} = 12.32$$
 ($S_{gw} = 20.41$ $S_{sw} = 6.15$ $S_{a} = 0$)
$$S_{FE} = 0$$

$$S_{DC} = 0$$

	Rating Factor			ned Value tie One)	Muit		Max. Score	Ref. (Section
1	Observed Release		à)	45)	1	45	45	3.1
	If observed releas	se is given	a score of 45	, proceed to line	4.		1	
	Route Characterist Depth to Aquifer of Concern		0 1	2 ③	2	6	6	3.2
	Net Precipitation Permeability of the	9	0 1 (2) 3	1	2 2	3	
	Unsaturated Zone Physical State	3	0 1 2	3 ③	1	3	3	
				aracteristics Sco	ore	13	15	
31	Containment		0 1 2	3	1	. 3	3	3.3
	Waste Characterist Toxicity/Persistend Hazardous Waste Quantity		0 3 6	9 (12) 15 18 3 4 5 6 7	8 1	12	18	3.4
		7	otal Waste Ch	aracteristics Sco	re	20	26	
0	Targets Ground Water Use Distance to Nearest Well/Population Served	*	0 1 2 0 4 6 12 16 18 24 30 32	③ . 8 10 20 35 40	3 1	9	9	3.5
			Total Tan	gets Score		13	49	
		ultiply 1	x 4 x 5 x 3 x 4			11,700	57.330	
م آ	ivide line 6 by	57,330 and	d multiply by 1	00 Saw=	20.41			

Rating Factor		Assigned (Circle			Multi- piler	Score	e Max. Score	Ref.
1 Observed Relea	30	0	45		1	0	45	4.1
If observed rele	ase is given .	a value of 45, pro a value of 0, pro	ocsed to line	a (1).	-			
Route Character Facility Slope ar Terrain	d Intervening	0 1 2	3		1	0	3	4.2
1-yr. 24-hr. Raint Distance to Near Water		- (1 2	2	3 6	
Physical State		0 1 2 (<u> </u>		1	3	3	
	To	staf Route Chara	cteristics Sc	ore		11	15	
Containment		0 1 2 (D		1	3	3	4.3
Waste Characteri Toxicity/Persiste Hazardous Waste Guantity	uce	0 3 6 9	12 15 18	7 ③	1	12	18	4.4
	To	tal Waste Charac	tenstics Sco	ere	T	20	26	
Targets Surface Water Use Distance to a Sen Environment Population Served to Water Intake Downstream	sitive	0 1 2 3 0 1 2 3 1 2 3 0 4 8 8 12 16 18 20 24 30 32 35	10		3 2	6 0 0	9 6	4.5
		Total Targets	Score .	-		6	55	79
If line 1 is 45.	multiply 1	x 4 x 5						

		A	AIR RO	UTE 4	ORK S	HEE	T			
	Rating Factor			igned Vi ircie On			Muith- plier	Score	Max. Score	Ref. (Section
1	Observed Release		0		45		1	0	45	5.1
	Date and Location:								·	
	Sampling Protocol:									
	If line 1 is 0, the									
2	Waste Characteristic Reactivity and Incompatibility Toxicity Hazardous Waste Quantity		0 1	2 3 2 3	4 5 6	7 8	1 3 1		3 9 8	5.2
		To	otal Waste	Charact	enstics S	core			20	
3	Targets Population Within 4-Mile Radius Distance to Sensitive Environment Land Use	9) 21 24 0 1	12 15 27 30 2 3 2 3	18		1 2 1		20 6 3	5.3
			من و در المراب							
			Total	Targets	Score				39	
4	Multiply 1 x 2	x 3							35,100	
5	Divide line 4 by :	35,100 and	multiply	by 100	Sa=	0				

98						
*	s	s²				
Groundwater Route Score (Sgw)	20.41	416.57				
Surface Water Route Score (S _{SW})	6.15	37.82				
Air Route Score (Sa)	0	0				
$s_{gw}^2 + s_{sw}^2 + s_a^2$		454.39				
$\sqrt{s_{gw}^2 + s_{sw}^2 + s_a^2}$		21.32				
$\sqrt{s_{gw}^2 + s_{sw}^2 + s_a^2} / 1.73$		S _M = 12.32				

WORKSHEET FOR COMPUTING s_{M}

Rating Factor	Assigned Value (Circle Cne)	Multi- plier Score	Max. Ref. Score (Section
Containment	. 1 3	1	3 7.1
2 Waste Characteristics			<u>'</u>
Direct Evidence	0 3	1	7.2
Ignitability	0 1 2 3	1	3
Reactivity	0 1 2 3	1	3
Incompatibility Hazardous Waste	0 1 2 3	1	3
Guantity	0 1 2 3 4 5 6 7 3	1 •	3
I Targets	Total Waste Characteristics Score		20
Distance to Nearest			7.3
Population	0 1 2 3 4 5	1	5
Distance to Nearest			•
Building	0 1 2 3	1	3 .
Distance to Sensitive	0 1 2 3		
Environment		1	3
Land Use Population Within	0 1 2 3	1	•
2-Mile Radius	0 1 2 3 4 5	1	3 5
Buildings Within			•
2-Mile Radius	0 1 2 3 4 5	1	5
T.	Za .		
	Total Targets Score		24
Multiply 1 x 2 x 3			440

	DIS	RECT CONTACT	WORK SHEE	T			
	Rating Factor	Assigned Valu (Circia Cne)		iti- er	Score	Max. Score	Ref.
1	Observed Incident	o 4	5 1		0	45	8.1
	If line 1 is 45, proceed to		•				
2	Accessibility	① 1 2 3	1		n	3	8.2
3	Containment	0 (15)	1	j.	15	15	8.3
4	Waste Characteristics Toxicity	0 1 2 3	5	İ	15	15	3.4
3	Targets Population Within a 1-Mile Radius	0 1 2 3 4	5 4		8	20	8.5
	Distance to a Critical Habitat	① 1 2 3	4		0	12	
5							
		Total Targets Sco	re		8	32	
	f line 1 is 45, multiply [7] f line 1 is 0, multiply [2]				0 2	1,500	
	Divide line 6 by 21,500 ar	nd multiply by 100 S	oc = 0				

HRS DOCUMENTATION RECORDS

DOCUMENTATION RECORDS FOR HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

FACILITY NAME: Oberdorfer Foundries, Inc.

LOCATION: Town of DeWitt, Onondaga County, New York

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

Total phenols exceeded groundwater standards ($0.122 \, \text{mg/l}$) in a sampling event on February 25, 1981 in Well 1.

Score = 45

Rationale for attributing the contaminants to the facility:

Part 360 Permit Application Data: Table 4.3, Well Sampling Data/Ground-water Quality Analyses

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) of concern:

- 1. Unconsolidated sand and gravel overburden.
- Middle Shale unit consisting of the Camillus Shale Formation underlain by the Vernon Shale Formation. Camillus Shale Formation consists of grey, thin-bedded shale, beds of gypsum, salt, and dolomite. The formation is 350 feet thick and occurs at a depth of 10 to 50 feet below surface.

Source: I. H. Kantrowitz, USGS, "Ground-Water Resources in the Eastern Oswego River Basin, New York", Basin Planning Report ORB-2, 1970

Depth(s) from the ground surface to the highest seasonal level of the saturated zone (water table(s)) of the aquifer of concern:

Depth = 8 Feet in unconsolidated sand and gravel overburden.

Depth = 20+ feet to Middle Shale unit.

Source: Part 360 Permit Application Data: Test Boring Logs, Parratt Wolf, Inc., February 9, 1981

Depth from the ground surface to the lowest point of waste disposal/storage:

Depth of deposit at active site = 8 feet depth
Depth to aquifer of concern:
Unconsolidated overburden = 0 feet
to Middle Shale Unit is assumed to be 20+ feet

Score = 3

Source: USGS Quadrangle, East Syracuse, NY
Part 360 Permit Application Data: Section 3.03

Elevation 417 (average surface elevation)

-Elevation 409 (approximate elevation of reclaimed swamp land prior to site use)

Depth = 8 feet

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

36 Inches

Source: National Oceanic and Atmospheric Administration, Climates of the States, Vol. 2, p. 719, 1978

Mean annual lake or seasonal evaporation (list months for seasonal):

27 Inches

Source: HRS Users Manual (HW-10), USEPA, 1984

Net precipitation (subtract the above figures):

9 Inches

Score = 2

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Soils in area classified as "urban".

Source: Soil Survey of Onondaga County, NY

0-9 Feet - Brown, moist, very loose fine to medium sand, some fine to medium gravel, little silt.

Source: Part 360 Permit Application Data: Test Boring Logs, Parratt Wolf, Inc., February 9, 1981

Permeability associated with soil type:

Permeability of waste foundry sand = 5.2×10^{-3} cm/sec. Soil type based on the boring logs indicates similar range of permeability

Score = 2

Source: Part 360 Permit Application Data: Empire Soils Investigations, Inc., Permeability Test Report, July 1981 HRS Users Manual (HW-10), USEPA, 1984

Physical State

Physical state of substances at time of disposal (or at present time for generated gases):

Solid, Unconsolidated: Value = 1 Sludge: Value = 3 Worst case is sludge.

Score = 3

Source: Part 360 Permit Application Data

Site Inspection, Wehran Engineering, March 18, 1985

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Landfill - no liner or cover

Source: Site Inspection, Wehran Engineering, March 18, 1985

Method with highest score:

Landfill - no liner or cover

Score = 3

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Phenol:

Toxicity = 3
Persistence = 1
Combined Matrix Value = 12

Compound with highest score:

Phenol

Score = 12

Source: Part 360 Permit Application Data

Site Inspection, Wehran Engineering, March 18, 1985

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

Current Volume of Waste Sand: 7,251 cy/year = 10,150 tons/year Approximately 50,000 cy in place

Basis of estimating and/or computing waste quantity:

Estimate taken from information provided in Part 360 Permit Application and discussion with Robert Wolf, Plant Engineer at Oberdorfer Foundries, Inc., during site investigation.

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

1. Groundwater not used in area of concern - public water supply in immediate area is from surface water sources.

Source: G. B. Radan, Hazardous Waste Site Dossier, April 29, 1980

2. Possible uses include: domestic, commercial, industrial, and agricultural uses, as indicated by records of selected wells.

Source: I. H. Kantrowitz, USGS, "Ground-Water Resources in the Eastern Oswego River Basin, New York", Basin Planning Report ORB-2, 1970

Score = 3

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

Near Fayettville and south/southwest of Fayettville.

Source: I. H. Kantrowitz, USGS, "Ground-Water Resources in the Eastern Oswego River Basin, New York", Basin Planning Report ORB-2, 1970

Distance to above well or building:

Within 2-3 miles of the site.

Value = 1

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:

Total population served is unknown.

Middle Shale Unit:

3.8 persons/dwelling unit x 4 dwelling units = 15.2 persons Unconsolidated sand and gravel overburden:

3.8 persons/dwelling unit x 8 dwelling units = 30.4 persons

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):

None known; assume none.

Total population served by ground water within a 3-mile radius:

15.2 + 30.4 = 45.6 persons/Value = 1

Score = 4

Source: I. H. Kantrowitz, USGS, "Ground-Water Resources in the Eastern Oswego River Basin, New York", Basin Planning Report ORB-2, 1970

SURFACE WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

NYSDEC sampled Ley Creek on May 17, 1979. Results indicated phenols in excess of State Water Quality Standards (maximum concentration measured was 0.003 ppm). However, no upstream sample was taken. Therefore, an observed release cannot be considered to have occurred.

Score = 0

Rationale for attributing the contaminants to the facility:

Not Applicable

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

Average slope = 6%

Source: USGS Quadrangle, East Syracuse, NY

Site Inspection, Wehran Engineering, March 18, 1985

Part 360 Permit Application Data

Name/description of nearest downslope surface water:

Ley Creek - South Branch

Average slope of terrain between facility and above-cited surface water body in percent:

Average Slope = 1.5%

Source: USGS Quadrangle, East Syracuse, NY

Is the facility located either totally or partially in surface water?

No

Is the facility completely surrounded by areas of higher elevation?

No

Score = 0

Source: Site Inspection, Wehran Engineering, March 18, 1985

USGS Quadrangle, East Syracuse, NY

1-Year 24-Hour Rainfall in Inches

2.25 Inches

Score = 2

Source: HRS Users Manual (HW-10), USEPA, 1984

Distance to Nearest Downslope Surface Water

800 Feet

Score = 3

Source: USGS Quadrangle, East Syracuse, NY

Physical State of Waste

Solid, unconsolidated value = 1

Sludge value = 3

Worst case is sludge.

Score = 3

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Landfill - no cover and no liner

Source: Site Inspection, Wehran Engineering, March 18, 1985

Method with highest score:

Score = 3

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

Phenol: Toxicity value = 3

Persistence value = 1

Combined matrix value = 12

Compound with highest score:

Phenol

Score = 12

Source: Part 360 Permit Application Data

Site Inspection, Wehran Engineering, March 18, 1985

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum);

Current volume of waste sand: 7251 cy/year = 10,150 tons/year

Approximately 50,000 cy in place

Basis of estimating and/or computing waste quantity:

Estimate taken from information provided in Part 360 Permit Application and discussion with Robert Wolf, Plant Engineer at Oberdorfer Foundries, Inc., during site investigation.

5 TARGETS

Surface Water Use

Use(s) of surface water within 3 miles downstream of the hazardous substance:

Recreational - Class D

Score = 2

Source: New York State Codes Rules and Regulations, Title 6, Article 14, Part 895

Is there tidal influence?

No

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

Not Applicable

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

None

Score = 0

Source: USGS Quadrangle, East Syracuse, NY

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

None

Score = 0

Source: NYSDEC Endangered Species Unit, Delmar, NY

Population Served by Surface Water

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

None within 3 miles

Source: NYS Atlas of Community Water System Sources, 1982

Computation of land area irrigated by above-cited intake(s) and conversion to population (1.5 people per acre):
None Known
Total population served:
Unknown
Score = 0
Name/description of nearest of above water bodies:
Not Applicable
Distance to above-cited intakes, measured in stream miles:
Not Applicable
Score = 0

AIR ROUTE

1 OBSERVED RELEASE

Contaminants detected:

None

Not Applicable

Date and location of detection of contaminants: Not Applicable
Methods used to detect the contaminants:
Not Applicable
Rationale for attributing the contaminants to the site:
Not Applicable
2 WASTE CHARACTERISTICS
Reactivity and Incompatibility
Most reactive compound:
Not Applicable
Most incompatible pair of compounds:

Toxicity

Most toxic compound:

Not Applicable

Hazardous Waste Quantity

Total quantity of hazardous waste:

Not Applicable

Basis of estimating and/or computing waste quantity:

Not Applicable

3 TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

0 to 4 mi

0 to 1 mi

0 to 1/2 mi

0 to 1/4 mi

Not Applicable

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

Not Applicable

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

Not Applicable

Distance to critical habitat of an endangered species, if 1 mile or less: Not Applicable

Land Use

Distance to commercial/industrial area, if 1 mile or less:

Not Applicable

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

Not Applicable

Distance to residential area, if 2 miles or less:

Not Applicable

Distance to agricultural land in production within past 5 years, if 1 mile or less:

Not Applicable

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Not Applicable

Is a historic or landmark site (National Register of Historic Places and National Natural Landmarks) within the view of the site?

Not Applicable

FIRE AND EXPLOSION

1 CONTAINMENT

Hazardous substances present:

To score the fire and explosion hazard mode either a state or local fire marshall must have certified that the facility presents a significant fire or explosion threat to the public or to a sensitive environment, or there must be a demonstrated threat based on field observations (e.g. combustible gas indicator readings). The available records give no indication that either one of these tasks has been done. Further, the available data do not suggest any imminent threat of fire and explosion at this site. Therefore the route score cannot be completed.

Type of containment, if applicable:

Not applicable

2 WASTE CHARACTERISTICS

Direct Evidence

Type of instrument and measurements:

Not applicable

Ignitability

Compound used:

Not applicable

Reactivity

Most reactive compound:

Not applicable

Incompatibility

Most incompatible pair of compounds:

Not applicable

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

Not applicable

Basis of estimating and/or computing waste quantity:

Not applicable

3 TARGETS

Distance to Nearest Population

Not applicable

Distance to Nearest Building

Not applicable

Distance to Sensitive Environment

Distance to wetlands:

Not applicable

Distance to critical habitat

Not applicable

Land Use

Distance to commercial/industrial area, if 1 mile or less:

Not applicable

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

Not applicable

Distance to residential area, if 2 miles or less:

Not applicable

Distance to agricultural land in production within past 5 years, if 1 mile or less:

Not applicable

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Not applicable

Is a historic or landmark site (National Register of Historic Places and National Natural Landmarks) within the view of the site?

Not applicable

Population Within 2-Mile Radius

Not applicable

Buildings Within 2-Mile Radius

Not applicable

DIRECT CONTACT

1 OBSERVED INCIDENT

Date, location, and pertinent details of incident:

No observed incident reported.

Score = 0

Source: Site Inspection, Wehran Engineering, March 18, 1985 NYSDEC File Review, March 18, 1985

2 ACCESSIBILITY

Describe type of barrier(s):

Access to the facility is restricted by fencing and plant security systems.

Score = 0

Source: Site Inspection, Wehran Engineering, March 18, 1985

3 CONTAINMENT

Type of containment, if applicable:

Waste is landfill, depth of cover material unknown; assume less than two feet.

Score = 15

Source: Site Inspection, Wehran Engineering, March 18, 1985 Part 360 Permit Application Data

4 WASTE CHARACTERISTICS

Toxicity

Compounds evaluated:

Phenol (3)

Score = 3

Source: Part 360 Permit Application Data

Compound with highest score:

Phenol (3)

Score = 3

5 TARGETS

Population within one-mile radius

Approximately 1,000

Score = 2

Source: House Count, USGS Quadrangle, East Syracuse, NY 1980 Census of Population

Distance to critical habitat (of endangered species)

None

Score = 0

Source: NYSDEC, Endangered Species Unit, Delmar, NY

OBERDORFER FOUNDRIES INCORPORATED

January 11, 1985

Wehran Engineering
Research and Design Center
666 East Main St.
Middletown, N.Y. 10940
Att: Constance A. Gasparovic

Ref: Site evaluation - foundry landfill

Gentlemen:

In response to your letter of December 6, 1984, I am sending you copies of pertinent parts of our application data for a Part 360 permit. A copy of the full report with associated maps, application, etc. has been filed in the DEC Region 7 office.

This site has been utilized as a landfill since about 1945 and the materials dumped there have been the typical non-ferrous foundry sand and refractory wastes.

If I can be of further assistance please contact me.

Very truly yours,

OBERDORFER FOUNDRIES, INC.

Robert Wolf

Plant Engineer

mf

SECTION 2

SOLID WASTE CHARACTERIZATION, COLLECTION AND DISPOSAL

2.01 Solid Waste Sources and Characteristics

Oberdorfer Foundry estimates that it currently generates approximately 7,251 cubic yards (10,150 tons) of solid wastes per year from their process. Approximately 96 - 99% of the waste consists of core and molding sands. The remaining 1 - 3% of the waste consists of miscellaneous sweepings, aluminum slag, WWTP sludge, baghouse dusts and quench tank sludge.

A. Waste Core Sand

Cores are solid forms, composed of sand mixed with 0.75% - 5.0% binder material, which form the required inner cavities of the casting. Binder materials typically used are phenol/formaldehyde, phenol isocyanates and sodium silicate. Most of these compounds decompose during casting to CO₂, CO, H₂ and water vapor. Approximately 75 - 100% is lost in this manner. Binder material retained in the core sand can, to some extent, be leached after disposal. Core sands comprise approximately 95% of all waste landfilled.

The core sand is disposed of in the following conditions:

- Raw This is sand which has been blended with a binder system but disposed of prior to curing.
- Cured The sand has been cured by the core making process but has not seen thermal destruction from casting. The material consists of core scraps, dumped pepset sand and unburned remnants of cores from casting.

2.01 Solid Waste Sources and Characteristics (Continued)

A. Waste Core Sand (Continued)

- 3. Burned Sand that has been thermally destroyed
- 4. Clean This refers to sand which was removed from the casting in the heat treat process. All binder remnants have volatilized from the sand.

The following table lists the core sands presently used and the estimated percentages of their physical states as disposed.* No raw sand is disposed in the landfill.

Sand Type	Raw	42	Cured	Burned	Clean
Shell			30%	40%	30%
Isocure	-		50%	30%	20%
Pepset	-	4.	50%	25% .	25%
Resin	-		30%	50%	20%
CO ₂	:-		70%	 30%	

^{*}As estimated by Oberdorfer Foundries

B. Waste Molding Sand

The molding sand process utilizes sand, clay binder, additives and some organic residues from undecomposed core binders. Oberdorfer uses a southern bentonite clay binder which constitutes about 10% of the entire mold. Molding sand does not contain the curing binders used with core sands.

In each reuse cycle, constituents of the molding sand undergo some thermal degradation from the heat encountered during pouring. The system sand is gradually replaced within 20 or more cycles of recycling and is eventually sent to the landfill for final disposal. The waste mold sand accounts for approximately 2% of all material disposed in the landfill. (See Figure 1.1). Waste mold sand does not possess any leachable components.

2.02 Method of Collection

There are two major methods of solid waste collection in Oberdorfer Foundries. The primary method involves collecting mold sand and core butts after casting is completed. These sands are placed on a belt-type elevator which recycles a fraction of the sand. Sand wasted from this process is stored in a hopper. Contents are periodically transferred to a dumpster which is taken to the landfill site.

A secondary method collects miscellaneous spills and excess sands. These materials are initially placed into smaller collection bins which are emptied into one centralized bin. Contents are periodically transferred to a dumpster which is taken to the landfill site.

SECTION 3

DESCRIPTION AND OPERATION OF THE DISPOSAL FACILITY

3.01 Location of the Disposal Facility

The disposal facility is located on the south side of Oberdorfer's property and adjacent to Roth Brothers Smelting Corporation (Sheet No. 4 of the accompanying drawings). The current site is 3.75 acres in size and material has been backfilled on the property since approximately 1943. The facilities geographical location is Latitude 43° 04' 22", Longitude 76° 05' 31". Land in this area is zoned by the Town of Dewitt for industrial use.

3.02 Ownership of the Disposal Facility

The disposal site is owned by Oberdorfer Foundries Incorporated as shown on Drawing No. 4. The operation of such a facility is allowed per Article X, Section 53-21 of the Town of Dewitt Zoning Ordinance.

3.03 Physical Description of the Disposal Facility

The disposal site presently being utilized by Oberdorfer Foundries Incorporated is shown in plan and profile on Figures #4 through #6 of the attached drawings. The terrain in the vicinity is generally flat due to its location within the drainage basin of the South Branch of Ley Creek. Most land in the area is reclaimed swamp land having been filled to an approximate U.S.G.S. elevation of 409.

The present disposal site is graded to an average U.S.G.S. elevation of 417. A section of the landfill adjacent to Roth Brothers Smelting Corporation has been mounded to an U.S.G.S. elevation of 425. The south face of this mound has approximately a 2:1 slope which is well within the angle of repose

3.03 Physical Description of the Disposal Facility (Continued) a for this type of sand. The north face has approximately a 1:1 slope. After an eight foot vertical drop this slope decreases to an average slope of 6% until reaching grade at U.S.G.S. elevation 410.

Landfill surface is essentially devoid of vegetation. Little surface runoff is evident due to the porous nature of the sand.

3.04 Facility Access and Current Operational Procedures

The site is only accessible from the east side. This side is adjacent to Oberdorfer's employees parking lot and is under observation by a guardhouse which is manned during all operational shifts. The south side is inaccessible by any type of vehicle due to its slope. The east side is bordered by railroad tracks which service the plant. The north side is bordered with a chain link fence which surrounds the entire plant (see Drawing No. 4).

Waste transportation and disposal is restricted to property owned by Oberdorfer Foundries Incorporated. Access to the disposal site is facilitated by a gate on the south side of the manufacturing operation. Typically, waste is stockpiled on a section of the site and periodically graded into two-foot lifts.

The site is active 240 days during the year and receives about 30.2 cubic yards of the material per day. Since one truck can haul approximately 5 cubic yards (7 tons) of the backfill, this results in approximately six dumps per active day.

3.05 Projected Life of Facility

Based on the current yearly generation of 7251 cubic yards of solid waste, it is estimated that a useful life of 3 years still remain for the facility. This is based on a final USGS grade elevation of 425.

SECTION 4

CHARACTERIZATION OF THE DISPOSAL SITE

4.01 Soil Borings and Observation Wells

On February 9, 1981, Parratt Wolf, Incorporated, installed three ground-water monitoring wells and performed subsurface soil investigations. Well locations are shown in Sheet No. 4 of the accompanying drawings. Sampling methods were in accordance with "Standard Method for Penetration Test and Split-Barrel Sampling of Soils" (ASTM designation: D-1586-67, AASHO Designation: T-206-70) and per 6 NYCRR Part 360 regulations.

4.02 Analysis of Borings

Boring logs, included in Appendix A, show little variability in soil characteristics, both vertically within each boring and horizontally between boring locations. Most landfill soil consists of fine to medium grain-sized sand of medium compaction. Groundwater was encountered eight feet below the existing surface in all borings as indicated in Appendix I.

4.03 RCRA Analysis of Landfilled Wastes

Table 4.1 lists the results of RCRA Extraction Procedure Toxicity testing. This table indicates all wastes currently sent to the landfill are non-hazardous.

In addition to RCRA testing, waste core and molding sands and baghouse dust were analyzed for phenols because of their use within the foundry. These results appear in Table 4.2.

Phenols are present in all waste material sampled. Concentrations detected are comparable to published values. 1

^{1&}quot;Foundry Landfill; Leachate from Solid Waste", American Foundrymen's Society., Research Report, 1978.

TABLE 4.1

RCRA INZARDOUS WASTE EXTRACTION

Ϋ́								1
*Reactivity	No.	o	% %	. · &	55		No	1
	2	Мо	No	. 69	ño		No	
Silver *Ignitablity *Corrosivity	₽.	No	No	No	16		No	1
Silver	<0.01	<0.01	<0.01	. <0.01	90.00		<0.01	5.0
Selentum	<0.002	<0.002	<0.002	<0.002	<0.002		<0.002	1.0
Lead Mercury Selentum	<0.002	<0.002	<0.002	<0.002	0.10 <0.002		<0.002	0.2
0000	0.10	0.04	0.20	.0.02	0.10		<0.02	5.0
Chromium- Hex.	<0.004	. 1	İ	ì	;		<0.004	×
Chromlum- Total	<0.01	<0.01	0.08	0.03	0.03		<0.01	5.0
Cadmium	<1.0 <0.01	1.0 <0.01	<0.01	<0.01	1.0 <0.01		<0.01	1.0
Bartum	<1.0	1.0	<1.0	<1.0		••	<1.0 <0.01	100.0
Arsenic	<0.002	<0.002	0.003	<0.002	0.005	= :	0.002	5.0
Waste Description Arsenic Bartum Cadmium	Quench Tank Studge	Baghouse #1	Baghouse 12	Bayhouse #3	Wastewater Treatment Sludge	Waste Core and Molding	Sands - In Place	RCRA Maximum Concen- trations

* The classification of these materials as being either Ignitable, Corrosive or Reactive is based upon visual inspection or other background data.

All analyses were conducted using EPA "Methods for Chemical Analysis of Water and Wastes (1979)" or "Standard Methods (14th Edition)"

All Analyses Reported in mg/l

TABLE 4.2 PHENOL CONTENT OF SELECTED WASTE MATERIALS

<u>Waste</u>	* *	Phenol Content (mg phenol/Kg waste, dry basis)
Core & Mold Sand		25.0*
Core Butts	N	9.3
Baghoușe Dust		20.7

^{*}Average of two samples

4.04 Chemical Analysis of Groundwater

Groundwater wells were developed and sampled in accordance to "Procedures Manual for Groundwater Monitoring at Solid Waste Disposal Facilities" (EPA/ 530/SW-611). A plastic hand bailer was used to sample and bail groundwater. The hand bailer was washed with a mild soap solution and thoroughly rinsed with distilled water prior to bailing or sampling each well. Approximately three well volumes were extracted one day before sampling. Prior to collecting each sample, water elevations were measured to determine the extent of recharge. Results of groundwater analyses are summarized in Table 4.3.

Groundwater quality is predominantly unaffected by landfill operation. As shown in Table 4.3, all parameters are below Class GA groundwater standards, with the exception of total phenols. While it is known phenols are present in the waste core and molding sands, the potential contribution from these sands is impossible to determine without background groundwater phenol content. Phenols could result from natural sources since land in this area is reclaimed swampland.

It has been reported that groundwater quality in the area is deficient. One analysis of groundwater from a well in the vicinity reported: 2

SULFATE - 500 mg/1

IRON - 3.5 mg/1

Both the above constituents also exceed Class GA groundwater quality standards.

4.05 Flow of Groundwater

The hydraulic gradient of groundwater is shown in Figure 4.1. Water level measurements indicate groundwater flow from Wells Nos. 2 and 3 to Well No. 1. It is difficult to determine from data available if groundwater flows southeast

²Telephone interview with Nicholas Chudyk of Carrier Corporation, June 2, 1981.

TABLE 4.3

WELL SAMPLING DATA

GROUNDWATER QUALITY ANALYSES*

Ċ	Se	0.02	<.002 <.002 <.002	<.002 <.002 <.002	<.002 <.002 <.002	
<	명	0.05	<.01 <.01 <.01	<.01 <.01 <.01	<pre><.01 <.01 <.01</pre>	,
Š	텀	0.002	<.002 <.002 <.002	<002 <002 <002	<.002 <.002 <.002	
A	21	0.025	<.02 <.02 <.02	<.02 <.02 <.02	<.02 <.02 <.02	
rotal	5	0.05	<.01 <.01 <.01	<.01 <.01 <.01	<:01 <:01 <:01	36°
			.006			
5	3	0.01	<pre></pre>	<pre></pre>	<pre></pre>	
Ba	3	1.0	444	÷÷;	44.4	
As	2	0.025	<.002 <.002 <.002	<.002 <.002 <.002	<002 <002 <002	
Cvanide		0.20	.008	.016 .015 .016	.003	
Phenol		0.001	.122 .012 .239	.021 <0.01 .018	.115 <0.01 .025	mg/l ts
**Hd		6.5-8.5	8.1 7.9 7.9	7.6	7.8 7.6 7.1	orted in Indard Uni
Well No.		stds.	3 2 1	3.21	3 5 1	All Parameters Reported in mg/l pH Reported in Standard Units
Sampling Date		Class G/A stds.	2/25/81	3/18/81	4/28/81	* All Para ** pH Repor

	<pre>Conductivity**</pre>	1800 2000 1900	4000 2400 2300
METERS *		27	
ADDITIONAL PARAMETERS *	_[0]	140. 210. 160	115 145 110
	100	20.0 25.0 50.0	23.0 3.0 15.0
		3 2 1	3 5 1
	6 G	3/18/81	4/28/81 DAN

* SAND Parameters Reported in mg/l
**SConductivity Reported in umhos/cm

4.05 Flow of Groundwater (Continued)

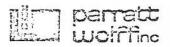
as indicated by the three monitoring wells or northeast, a more direct route to the South Branch of Ley Creek.

GROUNDWATER HYDRAULIC GRADIENT WELL No. 3 DATE No.1 No. 2 No. 3 51° 5.14 407.9 408.8 408.8 4.28 408.4 409.5 409.4 4.13 408.4 409.4 409.4 408.2 408.8 409.4 408.2 409.1 409.2 40°7 89° 0038 WELL No.3 262 WELL No. 2

FIGURE 4.1

4.06 Estimated Leachate Generation

Using climatic information from the U.S. Weather Bureau and methods described in EPA Manual No. SW-168, the estimated leachate can be calculated. Based on this method, approximately 10 inches of precipitation should percolate through the landfill into the groundwater regime annually. Since the site is generally void of plant life, the potential evapotranspiration was considered negligible. In addition, surface runoff was not considered because channeling was not observed in the landfill.



TEST BORING LOG

FISHER ROAD

EAST SYRACUSE, N.Y. 13057

PROJECT

Site Investigation

Oberdorfer Foundries, Inc.

LOCATION

Syracuse, New York

DATE STARTED

2/9/81

DATE COMPLETED 2/9/81

HOLENO. 8-1

SURF. EL.

JOB NO. 8116

GROUND WATER DEPTH

WHILE DRILLING 8.01

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING

30" - ASTM D-1586, STANDARD PENETRATION TEST

C - NO. OF BLOWS TO DRIVE CASING 12" WI "IOR - % CORE RECOVERY

HAMMER FALLING

BEFORE CASING REMOVED

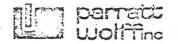
AFTER CASING

REMOVED

CASING TYPE - HOLLOW STEM AUGER

SHEET 1 OF 1 DRILLER'S FIELD LOG

SAMPLE NUMBER SAMPLE STRATA DRIVE SAMPLE DEPTH C DESCRIPTION OF MATERIAL CHANGE RECORD DEPTH DEPTH PER 6" Brown moist very loose fine to medium SAND, some fine to medium gravel, little silt 5.0 5.01-3/2 6.51 9.01 10.0 Brown wet very loose fine to medium 10.01-2 3/2 SAND, some silt, some peat 11.5' 15.0 15.01 - 3 4/4 16.51 18.0' Brown wet medium dense fine to medium 20.0 SAND, trace silt 20.0'-7/8 21.51 15 Bottom of Boring 21.51 Note: Installed observation well to 25.0 21.0' on completion. RACER0057961



TEST EORING LOG

FISHER ROAD

EAST SYRACUSE, N.Y. 13057 "

PROJECT

Site Investigation

Oberdorfer Foundries, Inc.

LOCATION

Syracuse, New York

2/9/81 DATE STARTED

DATE COMPLETED

2/9/81

HOLE NO. B-2

SURF. EL.

JOB NO. 8116

GROUND WATER DEPTH

WHILE DRILLING

N - NO, OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FALLING 30" - ASTM D-1586, STANDARD PENETRATION TEST

HAMMER FALLING

BEFORE CASING

REMOVED

AFTER CASING REMOVED

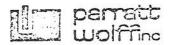
C - NO. OF BLOWS TO DRIVE CASING 12" WI "/OR - % CORE RECOVERY

CASING TYPE - HOLLOW STEM AUGER

SHEET 1 OF 1

DRILLER'S FIELD LOG

DEPTH	SAMPLE DEPTH	SAMPLE NUMBER	С	SAMPLE DRIVE RECORD PER 6"	7	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
						Brown moist medium dense fine to	
		-				medium SAND and CINDERS	
		-			-	a ac	İ
5.0		-	-			à 🚂 🖫	
7.0	5.01-	1		15/11			
	6.51	İ	i	11	22		
∇							
WL							9.01
10.0						Brown wet loose fine to medium SAND	
	10.0'-	2		4/3		and SILT	
	11.5'		·	4	-4		
15.0							15.01
	15.0'-	3		9/11		Brown wet medium dense fine to coarse	17.0
	16.51			6	17	SAND and fine to medium GRAVEL, some	
						silt	
20.0				0.70			20.01
	20.0'-	4		8/9	1.0	Brown-green moist medium dense SILT,	
i	21.5'			10	19	fine to coarse SAND and fine to medium	
					-	GRAVEL Bottom of Boring	21.5'
_25.0					\neg	BOLLOW OF BOTTING	21.5
25.0				j	$\neg \neg$	Note: Installed observation well to	
						20.0' on completion.	
-							
			 		-		
					-		
	-				$\overline{}$		
				i	\neg		
i							
		<u></u>				RACER005	7062
	<u> </u>	L				. KACEROUS	1 302



TEST BORING LOG

FISHER ROAD

EAST SYRACUSE, N.Y. 13057

PROJECT LOCATION Site Investigation

Oberdorfer Foundries, Inc.

Syracuse, New York

30" - ASTM D-1586, STANDARD PENETRATION TEST

DATE STARTED

2/9/81

DATE COMPLETED

2/9/81

HOLE NO. B-3

SURF. EL

JOB NO. 8116

GROUND WATER DEFTH WHILE DRILLING 8.0'

N - NO. OF BLOWS TO DRIVE SAMPLER 12" W/140# HAMMER FAILLING

REMOVED

AFTER CASING REMOVED

BEFORE CASING

C - NO. OF BLOWS TO DRIVE CASING 12" W/ "/OR - % CORE RECOVERY

HAMMER FALLING

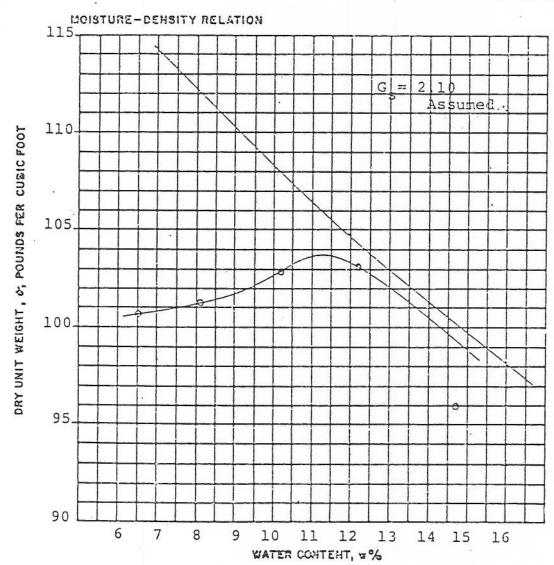
SHEET 1 OF 1 DRILLER'S FIELD LOG

CASING TYPE - HOLLOW STEM AUGER

DEPTH	SAMPLE DEPTH	SAMPLE NUMBER	С	SAMPLE DRIVE RECORD PER 6"	N	DESCRIPTION OF MATERIAL	STRATA CHANGE DEPTH
					T	Brown-black moist medium dense fine to	
				i i		medium SAND, trace cinders	
				Ī			
					-	·	
5.0							
	5.01-	1		4/5			
	6.51	i		6	11		
V	- 5.7					E. W.	8.0'
WL				i		Brown wet medium dense fine to medium	
10.0						SAND, some silt, little fine gravel	
	10.01-	2		10/11			
	11.5'			14	25		
		i					
er e							14.01
15.0				i e		Brown moist dense SILT, some embedded	
	15.01	1 3	1	1.6/16		fine to coarse gravel, trace fine sand	
	16.51			16	32	layers .	1
						Bottom of Boring	16.5'
			i -				
20.0						Note: Installed observation well to	
			i			15.0' on completion.	
							1
		1					
				i			
							į
		T	1				
		1	i				
		T				•	
			1				
		1	1	1			
		1	T		i i		
	·	1.					1
					T		
	1	1	1	T			
		-i	7	· · · · · · · · · · · · · · · · · · ·		RAC	ER0057963
		-	-		1	620	1

TEST METHOD		ASTH D	T 29-70. 695-70)		MODIFIED PROCTOR TEST (AASHO T 180-70, ASTM D 1537-70) .				
end diameter, inches		4	1	6		4	THE REAL PROPERTY.		
MOLD VOLUME, CUSIC FEET	H 01	033	0.0	078	0.0	32	0.0	75	
HARRER DEPART, POUNDS	· 1	2.5		. 5	1	0		0	
HAMMER DROP, INCHAS		12		2	i 1	e		1	
NUH SIR OF LAYERS .	- · · · ·	3		3		5		5	
HIMOER OF BLONES		25		146	2	5	5	c	
SZIS JAIRSTAN EUNIKAN	74	3/4"	454	3/4"	644	3/4"	£ 4	3/4	
METHOD	A	Co	0	0*	A	Ca	2	04	

OVERSIZE MATERIAL MAY SE REPLACED
WITH MATERIAL SETWEEN 3/4" AND THE
GA SIEVE. (NOTE & IN ASTHERECIFICATIONS.)



		01
SIEVE		% FIRE?
SIZE		CY WEIGHT
3		
5/4		
04		100
₩ 10	38	98.2
£ 40		96.1
r ≓ 200		3.7

MAXIMUM DRY DENSITY

103.7 POUNDS
PER CUBIC FOOT,
OPTIMUM WATER
CONTENT 11.3 %

SAMPLE INFORMATION: Sample No. 1 Waste Foundry Sand

METHOD OF TEST: ASTM D-698, Method A



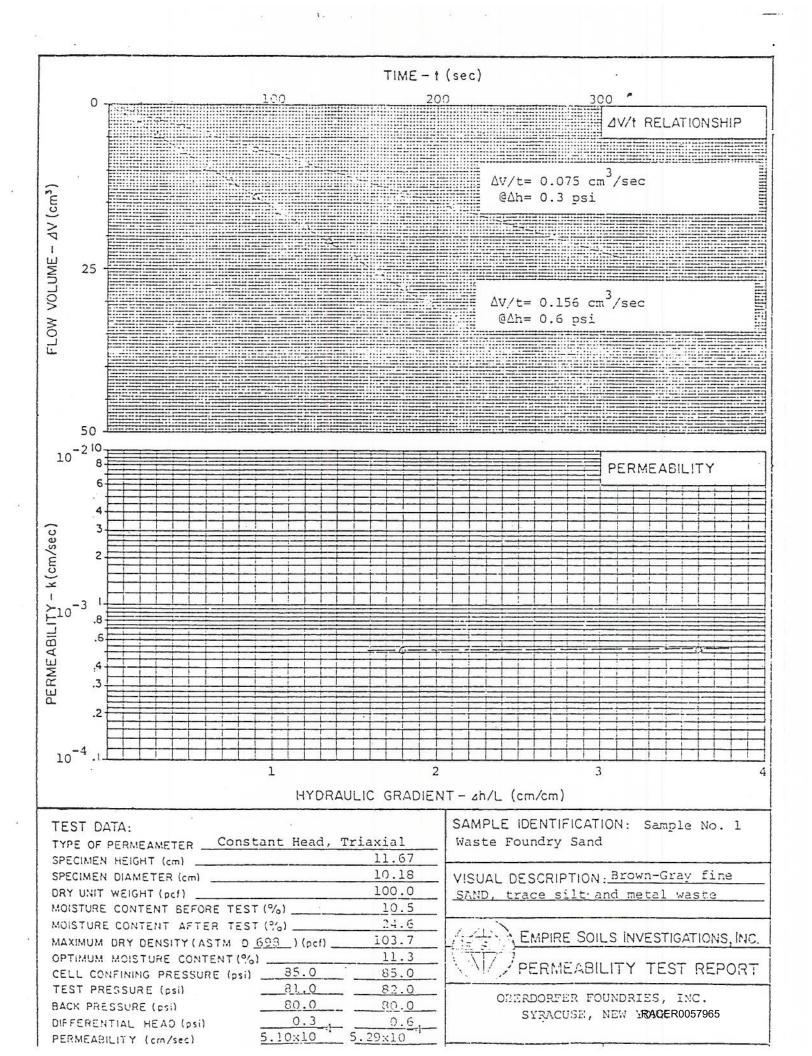
EMPIRE SOILS INVESTIGATIONS, INC.

PROCTOR COMPACTION TEST

OBERDORFER FOUNDRIES, INC. SYRACUSE, NEW YRACER0057964

ורים בעי דדות ובייות

12077 7 /0: 1-001 mcm 01 70



GROUND-WATER RESOURCES IN THE EASTERN OSWEGO RIVER BASIN, NEW YORK

Prepared for the

Eastern Oswego Regional Water Resources

Planning Board

by
L H. Kantrowitz

UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

in cooperation with

THE NEW YORK STATE CONSERVATION DEPARTMENT

DIVISION OF WATER RESOURCES

STATE OF NEW YORK
CONSERVATION DEPARTMENT
WATER RESOURCES COMMISSION

Basin Planning Report ORB-2 1970

GROUND-WATER RESOURCES IN THE EASTERN OSWEGO RIVER BASIN, NEW YORK

by I.H. Kantrowitz

ABSTRACT

The Eastern Oswego River basin comprises approximately 2,500 square miles in central New York. About 35 percent of the 600,000 people living in the basin rely on ground water to meet their water needs. Ground water sufficient for domestic supplies can generally be obtained. Sources of large supplies, such as for industries or municipalities, are present although not widespread.

The principal aquifers in the basin are unconsolidated deposits of sorted and stratified sand and gravel. The most prolific sand and gravel aquifers are those that are hydraulically connected to streams or rivers and, when pumped, can be recharged by surface water. Sixteen such aquifers have been tentatively identified; the potential yield of individual aquifers ranges from I mgd (million gallons per day) to 60 mgd, the total yield being about 280 mgd. Currently, less than 5 mgd is being withdrawn from these aquifers. Those surficial sand and gravel aquifers not connected to streams are recharged only by infiltrating precipitation and runoff from adjacent areas. The yields of such aquifers range from less than 0.4 to as much as 20 mgd, depending largely on the surface area of the particular aquifer and on climatic and topographic variations. Still other sand and gravel aquifers are buried beneath relatively impermeable materials and receive recharge only by the slow movement of ground water from adjacent deposits. The yields of these buried equifers generally range from 1 to 4 mgd.

Two bedrock units, the limestone and middle shale units, crop out in a broad belt across the central part of the basin and are capable of yielding large quantities of water, particularly wherever the units are crossed by streams. Unlike wells in sand and gravel aquifers, the yield of any one well in bedrock cannot be predicted with any degree of accuracy.

Ground water in much of the Eastern Oswego River basin is of poor quality. Wells tapping either the limestone and middle shale units or the unconsolidated deposits overlying these units are likely to yield very hard water. Water from the middle shale unit may be so hard as to make treatment uneconomical. Large parts of the basin are underlain by

relatively shallow salty ground water. The salt water is derived in part from layers of rock salt within the middle shale unit and in part from upward movement of salt water from deeper parts of the bedrock. In general, some fresh water occurs above the salt water -- generally in the unconsolidated deposits and in the upper 20 feet of the bedrock.

A total of about 21 mgd is withdrawn from the ground-water reservoir from public, domestic, industrial, and commercial supplies. This is only 2 percent of the estimated natural ground-water recharge of 1,000 mgd. Almost all the domestic pumpage and part of the public, industrial, and commercial pumpage is returned to the ground by septic tanks or other wastedisposal methods. The remainder, the net withdrawal, is probably less than 10 mgd, or less than 1 percent of the available supply.

THE GENERAL WATER SITUATION

Water supplies can be obtained in all parts of the Eastern Oswego River basin. The quantity and quality of the water, however, range from an almost unlimited supply of excellent quality water available to most city dwellers to a minimum supply of largely unpotable water available to some rural householders. We can get some idea of this range by looking at the present use of water in the basin, the source of this water, the major water problems, and the potential sources of the water that will be needed in the future.

PRESENT DEVELOPMENT OF WATER RESOURCES

One-billion gallons of water will cover more than 3,000 acres of land to a depth of I foot, cover a square mile to a depth of almost 5 feet, or fill to capacity a 3-mile high water tower 100 feet in diameter. Anyway more than one billion gallons is a lot of water. Yet considerably River basin each day! By far the greatest part of this water is used to and unchanged in chemical quality. The remainder of the water, more than establishments, and public buildings throughout the basin. Probably more than 95 percent of this water is available for reuse; that is, less than 15 mgd is actually consumed during use.

Broadly speaking, water supplies come from two sources: surface water (streams, lakes, and reservoirs) and ground water (wells and springs). Of the total water used in the basin (not counting that used for power generation), 93 percent comes from surface-water sources and only 7 percent from wells and springs. Water supplies may also be separated into:

- Public supplies--water supplied to home, industrial, and commercial users by municipally or privately owned systems;
- domestic supplies--water supplied to private homes by individually owned systems; and
- industrial and commercial--water supplied to a factory or commercial establishment by a company-owned system.

The estimated annual withdrawals of water in the basin by source and type of supply is shown in table 1.

Although the total withdrawal of ground water is small compared to that of surface water, the figures in table I are somewhat misleading. Only about one-third of the surface water withdrawn by the major public supplies is used in households; the remainder is used in factories, stores, for fire-fighting and other public requirements, or is lost through leakage from water mains. Actually, about 35 out of every 100 people living

Table 1.--Estimated withdrawals of ground water and surface water, exclusive of power generation, in the Eastern Oswego River basin during 1964

	Estimated a	verage annu on gallons o	al withdrawal er dav)	\$
Source of water	Public supplies	Domestic supplies	Industrial and commercial supplies	Total
Surface water	95	0		
Ground water	7 8	<u> </u>	200	295
AII	105	//	ś !	21
	103	71	206	316

in the basin use ground water to meet their basic water needs. Figure 3 shows the areas served by public supplies; elsewhere ground water from individually owned wells and springs is the principal supply for farmers and homeowners, and is an important supply for industries, particularly in areas distant from surface-water sources. Also, as can be seen in figure 3, ground water is the source of almost all but the largest of the public-supply systems.

WATER PROBLEMS

Large amounts of water are withdrawn every day from rivers and lakes in the Eastern Oswego River basin and smaller, although significant, amounts of water are withdrawn from wells and springs. So far the water-supply situation looks pretty good. But what happens to the millions of gallons of water used daily? Is the water changed? Where does it go after it is used? What about the reliability of supply where cities and villages draw water from lakes or reservoirs that get dangerously low each summer? And what might be done where wells don't supply enough water or supply water with unpleasant tastes or chemical properties? These, then, are the water problems in the basin: pollution, inadequate public supplies, low-yielding er of er of RACER005797 wells, and poor water quality. Most of these problems will be discussed in greater detail in subsequent sections of this report. For now let's briefly summarize the problems and look at the affected areas.

Figure 4 is a map of the basin showing:

- 1. The areas where well yields are likely to be low;
- the areas where the chemical quality of ground water, and at times surface water, may be poor; and
- 3. the extent of stream pollution.

Inadequate public supplies are not shown in figure 4; in each instance where public supplies are inadequate, additional water is available either through increased development of present sources or through development of

Dug wells in sand and gravel serve as public-supply wells in severa villages and communities in the basin including Baldwinsville, Central Square, and Manlius. These wells are as much as 20 feet in diameter, an some of them yield more than 1,000 gpm.

CLAY AND SILT

Deposits of clay and silt were laid down in the quiet waters of lake that once covered much of the basin. These lakes were so extensive that, except for till, clay and silt is the most widespread of all the unconsoidated deposits. In previous sections of this report we have seen that cand silt is often found together with layers of sand and gravel (fig. 13). The deposits designated as buried sand and gravel, as shown in plates 1 at 2, are overlain by clay and silt. Wherever this occurs the clay and silt is not considered to be a source of water. In these paragraphs we are concerned with the deposits shown as clay and silt in plates 1 and 2. These deposits are labeled "water-bearing material" but it is a title won by default; wherever clay and silt is designated on the maps, it is the only unconsolidated deposit present.

Clay and silt deposits consist of microscopic particles smaller than 0.003 inch in diameter; it would take more than 300 of the largest silt particles or more than 6,000 of the largest clay particles laid end to end to equal 1 inch. Although silt particles may be more than 20 times larges than clay particles, the two are almost always found together in nature: as a succession of thin, well sorted layers; as silt with some scattered clay; or as clay with some scattered silt.

Deposits of clay and silt are very porous. In fact, clay and silt can store more water than any other material found in the basin. The water-bearing openings between individual grains are so small, however, that the specific retention of the deposits is almost equal to the porosity. Virtually all the water stored in clay and silt is held as a tight film around the particles. Clay and silt is therefore the pocrest source of ground water in the basin. Because it is virtually impermeable, clay and silt act as a confining layer for underlying aquifers (fig. 18). This is the reason that artesian conditions occur in all the buried aquifers shown in plates 1 and 2.

There is no known instance of drilled or driven wells ever supplying usable quantities of water from clay and silt. Dug wells can generally supply minimum quantities of water, doubtless not more than 100 gpd in most cases. Much of this water probably enters the wells from paper-thin layers of very fine sand occurring throughout most clay and silt deposits. More than half the dug wells in clay and silt observed in the basin are inadequate during periods when the water table is low. As with similar type wells in other deposits, dug wells should be as deep as possible. In order that they always have water, dug wells should be constructed in the summer or early fall when water levels are lowest and the wells can be dug the deepest.

RACER0057971

Deposits of clay and silt furnish, at best, only marginal supplies of water. It is, therefore, advisable to obtain water from a more reliable source. In areas where clay and silt is the only unconsolidated deposit present (pls. 1 and 2) the underlying bedrock may supply adequate quantities of water.

MIXED DEPOSITS

AND THE THE SEA OF THE CONTRACT OF THE PARTY

Mixed deposits, as their name implies, are a mixture of all the types of unconsolidated deposits we have discussed so far. That is, they are composed of layers of till, sand and gravel, sand, and clay and silt that occur in an irregular sequence. Mixed deposits were formed whenever the front of the Ice-Age glaciers remained stationary for relatively long periods of time. During these periods the ice continued to move forward but increased melting held the ice front at a constant position. This cannot be a conditions and rates of melt-water flow were variable; at times melt-water rivers deposited layers of sand and gravel or sand and at other times sand or clay and silt was laid down in temporary lakes. Layers of deposits.

The distribution of mixed deposits in the basin is shown in plates land 2. Mixed deposits are found at the southern end of all the major valleys in the Appalachian Upland (pl. 2). These deposits are called the Valley Heads Moraine by most geologists; they are also called the Tully Moraine because they are most strikingly developed at the head-waters of thickest accumulation of Tully. The Valley Heads Moraine is the than 500 feet of mixed deposits in the basin; in places, more of mixed deposits are found. Less extensive accumulations Valley Heads Moraine; they mark shorter but significant stationary generally less than 100 feet thick, are found in and around the Tug Hill tions of the ice as it melted back from the highlands.

We have already seen that sand and gravel is the best water-bearing material in the basin. Fortunately, layers of sand and gravel are almost always present within mixed deposits. Wells drilled into these layers are the most reliable sources of water from mixed deposits; they are acequate sources for domestic and farm supplies and may furnish enough yields (up to 350 gpm) are to be expected in the Appalachian Upland (pl. 2) where the mixed deposits are thickest and the gravel content is the greatest. Elsewhere, yields may be as much as 100 or 200 gpm. Development of drilled wells in the sand and gravel layers within the mixed deposits should follow the suggestions made in previous sections of this little or no sand and gravel. In these areas till or the underlying bedrock will be the most reliable source of water.

Artesian conditions are common in mixed deposits wherever a permeable water-bearing layer lies beneath an impermeable layer. This situation is illustrated in figure 24. Many deeply drilled wells in mixed deposits

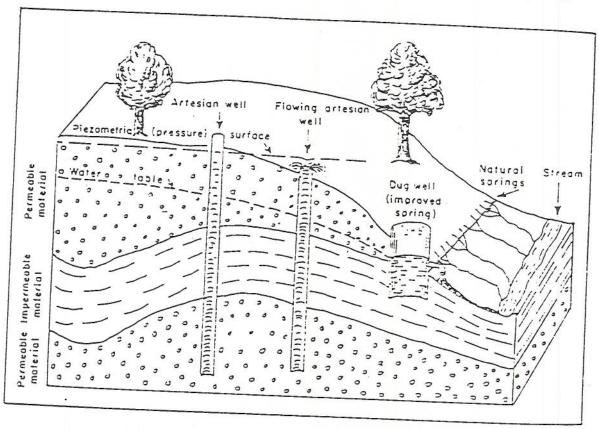


Figure 24. -- Both springs and artesian wells are common in areas underlain by mixed deposits.

e RACER005797 flow at the land surface, although as we see in figure 24, not all artesian wells necessarily flow. Figure 24 also shows us that not all flowing wells are artesian. Sand and gravel often overlies clay and silt or till within mixed deposits. Such conditions are often favorable for the formation of springs. Ground water in the permeable layer cannot drain downward freely and tends to accumulate above the contact with the impermeatie layer as shown in figure 24. Wherever the contact is exposed at land surface it is commonly marked by a line of springs or seeps. Such springs are easily developed by means of smallow dug wells. The flow of the springs almost always is reduced in the summer and early fall when the water stored in the permeable layer is depleted. Even so, many springs in mixed deposits are sources of adequate year-round domestic and farm supplies.

WATER IN THE BEDROCK

Bedrock, or consolidated rock, underlies the entire basin. We see the bedrock in some road cuts and in stone quarries, and in natural

The state of the s

exposures, such as stream channels. Elsewhere, the bedrock is buried by s much as several hundred feet of unconsolidated deposits. Compared to the unconsolidated deposits, bedrock has relatively uniform physical and *ster-bearing properties. Nevertheless, differences exist between the various types of bedrock. Geologists have subdivided the bedrock in the basin into 16 major units according to age -- the stage of the earth's history during which the rocks were formed -- and according to physical properties -- whether the rocks are composed of shale, sandstone, or carbonates (limestone and dolomite). Ground-water users find the physical properties important because such properties strongly affect the water-bearing characteristics of bedrock. As shown in table 3, we can reduce the 16 rock units to 7 water-bearing units by grouping some formations of different geologic age; for those who are interested, all the bedrock in the basin was formed between about 350 and 500 million years ago during the Devonian, Silurian, and Ordovician geologic periods. Some data on well yields from bedrock are also shown in table 3. Generally speaking, bedrock is a better source of water than till or clay and silt, but a poorer source than either sand and gravel or mixed

The distribution of the bedrock water-bearing units is shown in plates 3 and 4. These maps show the rocks that would appear at land surface if all unconsolidated deposits were removed. The bedrock units occur as bands that trend predominantly east-west across the area. In reality, the units are layers stacked one on top of the other. This is shown in figure 25. The bedrock units are inclined toward the south at a dip of about 50 feet to the mile. (This gentle inclination appears of the diagram are unequal.) When seen in road cuts or other small outcrops the dip of the bedrock is too small to be apparent to the eye; yet the dip produces the succession of bands we see on the map.

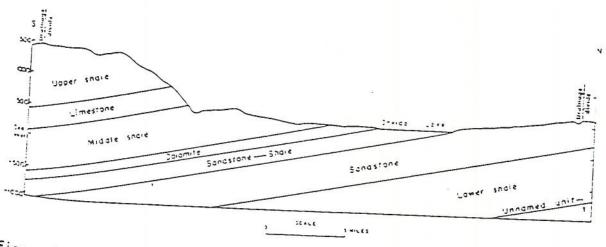


Figure 25.--The water-bearing bedrock units occur as gently dipping layers. (Generalized geologic section drawn along longitude 76°00'.)

Table 3.--Water-bearing bedrock units In the Eastern Oswego River basin

	Thick-ness (feet)		1 1-11	350 Gray thin-bedded shale, beds of gypsum. 970 Red soft shale, beds of green shale.	+	Single and sandstone, and beds of limestone. Red fine- to coarse-graine Gray fine-grained sandstone. Black and gray shale.
	nge Geologic rock unit	Genesee Formation 100 Tully Limestone Hamilton Group	tone one one stone		Clinton Group	25 Albion Group 1000 0 Swego Sandstone 100 100 100 100 100 100 100 100 100 10
Yield		_	3	- -	-	_
	w (9	25	20	۳	3 3
	Thick- ness (feet)	1,925	3410	850	250	500
	Water-bearing unit	Upper shale	Limestone	Middle shafe Dolomite	Sands tone-shale	Sandstone Lower shale

THE PROPERTY OF THE PROPERTY O

Little is known about the actual size of the water-bearing openings in bedrock. At outcrops the openings may be several inches across, but we notice they become smaller towards the bottom of the exposure. We have not way of knowing just how small and how widely spaced they become at depth. Based on some observations made in deep excavations near Niagara Falls, the width of the openings is less than 1/10 of an inch (Johnston, 1964). In the Eastern Oswego River basin, somewhat larger openings may be present in the limestone and middle shale units. These units contain minerals that widened by solution.

Water is obtained from bedrock almost exclusively by means of drilled wells. In the Eastern Oswego River basin, these wells are drilled by the cable-tool method -- a bit is pounded against the rock and the crushed fragments are removed by bailing. The drilled hole is cased through the unconsolidated deposits to prevent caving but is left open in the bedrock. This is shown in figure 27. Drilled wells draw water from all the water-

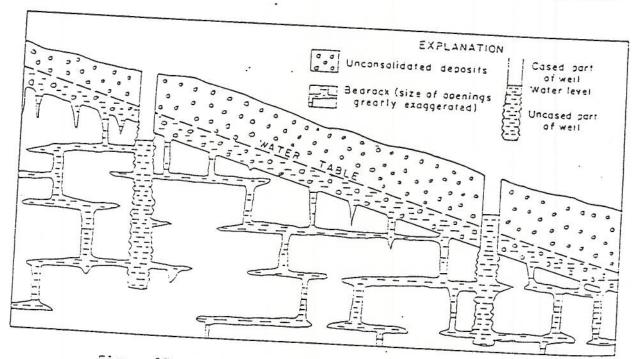


Figure 27. -- Water in bedrock fractures flows into the uncased parts of drilled wells.

bearing openings they intercept. Each individual opening can store and yield only a relatively small amount of water. In order to yield usable quantities of water the openings must be interconnected to allow water from a relatively large part of the aquifer to move toward the well. Thus, the yield of a bedrock well largely depends upon the number, size, and degree of interconnection of the water-bearing openings intercepted by the drill hole.

a transconding and appropriate the second se



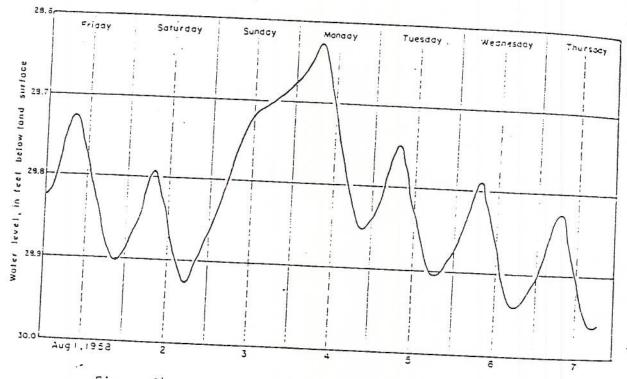


Figure 34. -- Water levels in the ground-water reservoir are affected by pumping.

Because of a relatively high recharge rate and the large amount of water held in storage, the total ground-water pumpage in the basin can be increased many fold without significant lowering of the water table. This does not mean that overly large increases in pumpage would have no local or even regional effect. Wherever long term heavy withdrawal occurs ground-water levels will decline in the vicinity of the well field and may cause some shallow wells to go dry.

YIELD OF UNCONSOLIDATED AQUIFERS

Approximate yields for properly constructed wells in the unconsolidated deposits are indicated in plates I and 2. These data will generally determine the availability of ground water for domestic, farm and small do not give us the full picture of water availability; for example, they how much water may be pumped from an aquifer without drying it up. These large scale public and industrial supplies. To develop a complete picture well and aquifer yields. These factors are (1) the hydraulic characteristics of the aquifer, and (2) the rates of recharge to the aquifers.

- 62 -

The second secon

HYDRAULIC CHARACTERISTICS

The physical properties of a material determine its capacity as an aquifer. We have seen that the ability of a geologic material to store and transmit water is controlled by the degree of sorting and the size of the particles that comprise it. Furthermore, we have seen that of all the unconsolidated deposits only those composed of sand and gravel are well sorted enough and are coarse enough to be considered as aquifers. Therefore, the following discussion will be 'imited to sand and gravel aquifers, including gravel-free sand and those mixed deposits that contain substantial amounts of sand and gravel.

In order to make quantitative estimates of the behavior of sand and gravel aquifers, we must relate their capacity to transmit and store water to measurable hydraulic characteristics. The quantitative expressions of these characteristics are referred to as the coefficients of transmissibility and storage. The coefficient of transmissibility is defined as the rate of flow, in gallons per day, at the prevailing water temperature, that would occur through a 1-foot wide vertical section of the aquifer under a hydraulic gradient of 1 foot per foot. It is expressed as gallons per day per foot (gpd per foot). The storage coefficient is the volume of water that will drain by gravity from a vertical section of the aquifer with a base area of 1 square foot when the water level is lowered 1 foot. It is expressed as a dimensionless decimal.

Numerical values for the aquifer coefficients are determined from aquifer tests; that is, the observation of the way water levels in wells respond to pumping. Table 5 summarizes the available data on aquifer coefficients of sand and gravel deposits in the basin. The aquifer-test data were analyzed by the Theis nonequilibrium method described by Ferris and others (1962, p. 92-98).

Table 5.--Aquifer coefficients of sand and gravei deposits in the Eastern Oswego River basin

Transmissibility (gallons per day per foot)	Storage coefficient
34,000	0.0002
	.0004
	.0001
	.2 e/
	.003
797,000	.2 e/
	(gallons per day per foot) 34,000 64,000 263,000 550,000 695,000

e/ Estimated.

T. S. B. Called South

· 上台// 1988年中中中国

The coefficients of storage shown in table 5 reflect the manner in which water is stored and released in the aquifers. In water-table aquifers, water is stored under atmospheric pressure and is released during pumping by simple drainage. The coefficient of storage is therefore equivalent to the specific yield of the aquifer and the values are relatively high. According to Ferris and others (1962, p. 78), the storage coefficients of water-table

Place 5 shows the yield, in million gallons per day, of the gravelparing aquifers in the basin. As we have already seen in places I and 2, against any be classified into three types on the basis of their conner of recharge. These aquifer types and the methods used to determine

- 1. Sand and gravel at land surface. -- It is assumed that 25 percent of the precipitation falling on sand and gravel is able to infiltrate into the ground. This amount of infiltration is equivalent to a recharge rate of about 0.6 mgd per square mile of aquifer surface in the Tug Hill Upland and about 0.5 mgd per square mile in the remainder of the area. Many of the surficial sand and gravel aquifers (particularly in the Appalachian and Tug Hill Uplands) are located in valleys and thus receive additional recharge in the form of storm runoff from adjacent hills. Recharge to the surficial aquifers from storm runoff is also assumed to be about 25 percent of the precipitation falling on the areas directly tributary to the aquifers.
- 2. Sand and grave! at land surface that is favorably situated with respect to stream infiltration. -- These aquifers receive natural recharge in the manner outlined above. As we have already seen in figure 17, they may also receive additional recharge in the form of induced stream infiltration. The amount of water that can be obtained from stream infiltration is largely controlled by the coefficient of permeability of the streambed material. coefficient of permeability is equal to the coefficient of transmissibility divided by aquifer thickness in feet, and is expressed as gallons per day per square foot of aquifer.) The permeability of the gravel-bearing aquifers in the basin ranges from about 500 to as much as 2,000 gpd per square foot. Stream bottoms are likely to be covered by silt and very fine sand which reduces their permeability to about 50 gpd per square foot. According to Darcy's Law (Ferris and others, 1962, p. 73), the amount of water that can drain by gravity through a given material is equal to the product of the coefficient of permeability of the material and its crosssectional area. Gravity drainage is possible whenever water levels in the adulfer are lowered below the bottom of the streambed material. At such times the rate of infiltration per thousand feet of channel length is equal to 50,000 gpd per foot of channel width. For example, the infiltration from a I mile length of a stream with a channel 10 foot wide is about 2.6 mgd. Theoretical yields for all sand and grave! aquifers where infiltration supplies are thought likely were computed by Darcy's Law. These values were then compared to: (a) the available streamflow at each site; (b) the ability of the available storage within the aquifer to make up for streamflow deficiencies, if any; and (c) the ability of the aquifer to transmit water from the stream to the wells (again using Darcy's Law). Estimates of the maximum perennial yields of the infiltration supplies are shown in place 5.

Sand and gravel buried beneath less permeable deposits.--It is obvious that buried aquifers cannot receive direct recharge from precipitation, overland runoff, or induced infiltration. These aquifers must be recharged by ground water moving from adjacent unconsolidated deposits or bedrock units. Plates 1 and 2 show that, at least in a two-dimensional plan view, almost all the buried sand and gravel acuifers are adjacent to surficial sand and gravel or mixed deposits. Wherever these deposits are in actual physical contact, recharge to the buried aquifer will be relatively large. In such cases, however, the yield of both the surficial and buried aquifers must be considered as a unit; any ground water withdrawn from the recharging surface aquifer will reduce the available yield of the buried aquifer. The total water available to surficial-buried aquifer systems is equal to recharge to the surface aquifer (computed by the method outlined in paragraph number I above) plus a small amount of recharge to the buried aquifer in the form of ground-water movement from adjacent relatively impermeable material. This latter recharge value is assumed to be 50,000 gpd per square mile of area directly tributary to the buried aquifer. Buried aquifers that are in physical contact only with bedrock and impermeable unconsolidated deposits are recharged by ground-water movement that is assumed to be at a rate of 50,000 gpd per square mile of tributary area. These relatively low yielding aquifers are generally found underlying the middle reaches of the Appalachian Upland valleys and throughout much of the Ontario-Monawk Lowland.

It must be stressed that the yields shown in place 5 are, at best, based on incomplete data. Test drilling, aquifer testing, and other specialized studies are needed to define more fully the hydraulic characteristics, geometry, and hydrology of the aquifers. In particular, additional data are needed at each of the areas that are believed to be favorably located with respect to stream infiltration; testing is needed to verify the hydraulic connection between the acuifer and the streams and to evaluate the permeability of the streambed materials.

Obviously the development of infiltration supplies will modify the flow characteristics of the streams; in fact, many of the streams may, at times, become completely dry. Less obvious, but nevertheless true, is the fact that any withdrawal of ground water results in a decrease of natural streamflow. Large scale development of ground water must therefore be carried out with an awareness of the possible effects on the total water picture. For example, depletion of streamflow, particularly during times of low flow, reduces the ability of a stream to dilute sewage.

Water quality, which will be discussed in more detail in a later section, must be briefly mentioned here with respect to large ground-water supplies from sand and gravel aquifers. Induced infiltration supplies in the valleys of Onondaga Creek and Ninemile Creek near Amboy will doubtless yield salty ground water unusable as a public supply. The buried aquifers in the Ontario-Mohawk Lowland may also yield salt water under conditions of moderate to high pumpage. Salty ground water can, of course, be used for some industrial uses but makes a poor domestic supply and is ruinous for some indus-

CHEMICAL QUALITY OF SURFACE WATER IN THE EASTERN OSWEGO RIVER BASIN, NEW YORK

Prepared for the

EASTERN OSWEGO BASIN REGIONAL WATER RESOURCES PLANNING BOARD

Ву

William J. Shampine

UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

in cooperation with NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Basin Planning Report ORB-6 1973 CHEMICAL QUALITY OF SURFACE WATER IN THE EASTERN OSWEGO RIVER BASIN, NEW YORK

By
William J. Shampine

ABSTRACT

The Eastern Oswego River basin is an area of about 2,500 square miles in central New York. The basin may be subdivided into four regions characterized by surface water of distinctive chemical quality: Regions I (roughly the northern one-third of the basin), IIA (the southern one-third of the basin), and IIB (a triangular area in the northwestern corner of the basin) are characterized by calcium bicarbonate type water with average dissolved-solids contents of 80, 200, and 700 milligrams per liter, respectively; Region III (an east-west band across the central part of the basin) is characterized by calcium sulfate type water and a dissolved-solids content of about 700 milligrams per liter. Water from Regions I, IIA, and IIB is suitable for public and private supplies with little treatment. The more highly mineralized water from Region III, particularly in the Onondaga Lake area, including Syracuse, is unsuitable for most uses without treatment.

RACER0057982

Surface-Water System

The major features of the basin's surface-water system are the New York State Barge Canal and the many lakes. The Barge Canal flows westward from Rome, through Oneida Lake, and into the Oneida River, which has been canalized. Onondaga Lake is also a part of the Barge Canal system and flows into the Seneca River just north of Syracuse. The Seneca River has been canalized and flows eastward across the northern part of the basin to join the Oneida River south of Phoenix. Downstream from the junction of the Seneca and Oneida Rivers, is the Oswego River, which also is canalized and which flows northward to Lake Ontario.

Lakes have an important influence on the flow system of this basin because about 75 percent of the basin's drainage area is tributary to lakes. The fact that a significant amount of runoff goes into temporary lake storage is the primary reason for the well sustained outflow of the Oswego River and its main tributaries.

Control structures are used to regulate the levels of the major lakes and the flow of water to the Barge Canal. Release of water from the lakes in the fall causes high flows through the outlets and lower lake levels in the winter. Flooding within the basin is reduced by permitting the lakes to fill during spring floods. In summer, the lake levels are maintained at a nearly constant elevation. Lake regulation tends to maintain uniform flows from the lakes and to reduce the magnitude of flood peaks. Nearly constant water levels in the canal system are maintained during the navigation season, but they are lowered considerably when the system is closed for the winter (about December 15).

Water from the Susquehanna River basin is occasionally diverted from DeRuyter Reservoir into Limestone Creek in the Eastern Oswego River basin (fig. 2).

RACER0057983

- 9 -

) Oswego River

The Oswego River begins at the confluence of the Seneca and the Oneida Rivers. The river, canalized throughout its 24-mile length, falls approximately 119 feet. Flow in the Oswego River is regulated by the many locks and the hydroelectric installations to assure adequate water supplies for municipalities, transportation, power development, and flood control. This regulation also affects water quality.

The analyses in this section are based largely on detailed data collected during the 1958 water year and on data from a series of samples collected monthly from July 1964 to September 1966. The average discharge during the 1958 water year was very close to the long-term average flow, and, thus, the 1958 water year should be a representative period.

Mineralization of the Oswego River varies widely throughout the year. In the 1958 water year specific conductance ranged from 525 to 1,890 μ mhos/cm and averaged 967 μ mhos/cm. Daily variations in discharge and specific conductance may be seen in figure 31, whereas seasonal trends are more apparent in figure 32. Minimum values occur during the spring floods, and maximum values occur during the fall.

Because of the controlled discharges, a somewhat poorly defined relation exists between specific conductance and discharge (fig. 33); however, there is an apparent trend.

The chemical composition of the water in the Oswego River at low and moderate discharges is strongly influenced by the highly mineralized contribution of Onondaga Lake, and the water is of the same type as in the lake (calcium and sodium chloride). However, as the discharge increases from 1,500 to 4,000 cfs, there are sharp decreases in the calcium, sodium and chloride concentrations. As shown in figure 34, when the discharge exceeds about 13,000 cfs the chloride content is diluted enough to allow bicarbonate to become the dominant anion. Magnesium and bicarbonate concentrations, however, remain almost constant, and sulfate concentration is only slightly affected as the discharge increases.

Variations of the ionic concentration with respect to specific conductance also tend to indicate influence by Onondaga Lake. Generally, as the specific conductance decreases the concentrations of individual ions also decrease (figs. 35 and 36). The linear decrease in sodium concentration, from 210 to about 25 mg/l, probably represents the simple dilution of Onondaga Lake water. The sodium-specific conductance relation in figure 35 is generally valid to ±10 mg/l. The calcium-specific conductance curve in figure 35 is similar to the sodium curve except that it seems to be curvilinear during periods of low conductance (high flows). The departure from a straightline relation indicates a source of calcium other than Onondaga Lake water, whereas the linear sodium curve indicates that water from Onondaga Lake is probably the main source of sodium to the Oswego River. The calcium-specific conductance relation in figure 35 also seems to be generally valid to ±10 mg/l.

RACER0057984

The only other major cation whose concentration is quite constant is magnesium. A magnesium concentration of 14 ± 3 mg/l over the entire range of specific conductance is shown in figure 35. This lack of variation exists because the magnesium concentration in Onondaga Lake is approximately the same as in the rest of the basin.

The chloride-specific conductance relation (fig. 36) is linear over all ranges of specific conductances measured at Oswego and remains linear within ±10 mg/l through a range of chloride concentrations from 95 to 595 mg/l. Other than chloride, the anion concentrations seem to be relatively constant. The bicarbonate concentration remains at 125 ±10 mg/l over the entire range of specific conductance measured at Oswego. The sulfate-specific conductance relation, however, is slightly curvilinear and tends to reach a maximum value around 100 ±15 mg/l.

SUMMARY

In the Eastern Oswego River basin, the dissolved-solids content of precipitation generally averages 9 mg/l. The major constituent is sulfate. On a broad basinwide scale, there are no persistent precipitation-quality trends. The dissolved-solids content of precipitation around Syracuse, however, is normally slightly higher than that for the rest of the basin. Precipitation may contribute significant percentages of dissolved material to the surface water in areas where the streams normally carry water with a low dissolved-solids content, such as in Region 1. On an annual basis, the dissolved-solids load carried by precipitation is appreciable; the dissolved-solids content of 9 mg/l, would deposit more than 0.6 million tons of dissolved solids on the basin every year.

The water in streams is composed of overland flow or base flow, or a mixture of the two. High flows are chiefly attributable to overland flow, which is derived directly from precipitation or snowmelt and which generally has a low dissolved-solids content. During periods of low and moderate streamflow, the water in streams consists of base flow, which is predominantly ground water. Ground water is generally more highly mineralized than overland flow, and its quality reflects the chemistry of the rocks containing it.

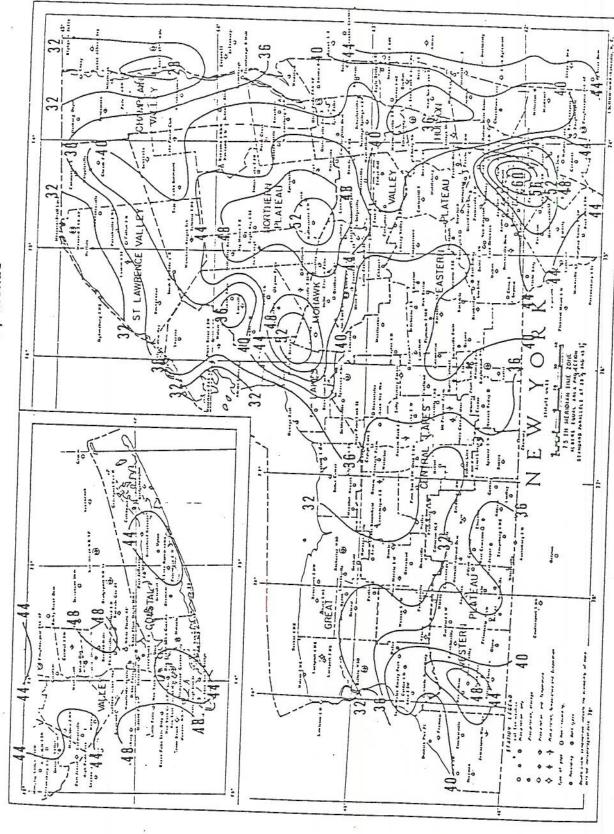
The basin is divided into three regions, each containing a distinct and characteristic water. Region I, roughly the northern one-third of the basin, discharges a calcium bicarbonate type water that drains from the sandstone and shales north of Oneida Lake (figs. 3 and 8). The dissolved-solids content of the water in this region averages 80 mg/l. Mineralization of stream water in Region I generally increases from east to west. Flow of the streams in Region I is partly controlled by swamps, which also affect the water quality. The long residence time of water in a swamp environment causes the water to become colored and acidic. The draining of swamp water during periods of low flow tends to sustain low-flow yields and to cause the dissolved-solids content to be relatively constant during this time. In general, the chemical quality of all the streams in Region I is good enough for public supply. However, some of the streams probably contain domestic sewage, and the water would require treatment before use.

Region II, the southern third (part IIA) and the northwestern tip (part IIB) of the basin, contains calcium bicarbonate type water. The dissolved-solids content of the streams in Region II averages 200 mg/l. The hydrology of Region II is similar to that of Region I. Most of the major streams in Region II are assumed to have hydrologic characteristics similar to those of Butternut Creek, on which detailed data were collected. During periods of very low flow (less than about 15 cfs), the specific conductance of Butternut Creek increases as the discharge increases. (For discharges greater than 15 cfs, specific conductance varies inversely with the streams in Region II, except Onondaga Creek, is good enough for public supply. However, many of these streams contain domestic sewage, and the water would require treatment before use. The lakes in Region II are of good quality, and most are used for public supply.

RACER0057986

11.22.17

3 E.



Data are based on the period 1931-55. Isolines are drawn through points of approximately equal value. Caution should be used in interpolating on these maps, particularly in mountainous areas. National Oceanic and Atmospheric Administration, Climates of the States, Vol.

2, p. 719, 1978.

719

RACER0057987

Uncontrolled Hazardous Waste Site Ranking System

A Users Manual (HW-10)

Originally Published in the July 16, 1982, Federal Register

United States Environmental Protection Agency

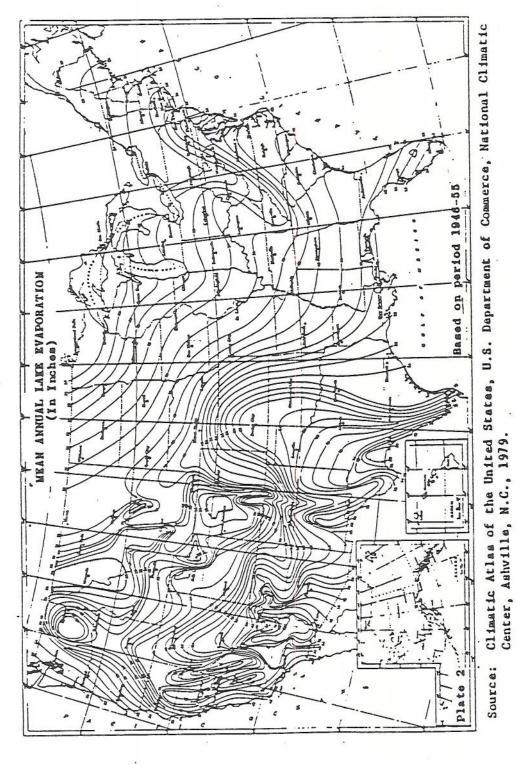


FIGURE 4
MEAN ANNUAL LAKE EVAPORATION
(IN INCHES)

TABLE 2
PERMEABILITY OF GEOLOGIC MATERIALS*

Type of Material	Approximate Range of Eydraulic Conductivity	Assigned Value
Clay, compact till, shale; unfractured metamorphic and igneous rocks	<10 ⁻⁷ cm/sec	0
Silt, loess, silty clays, silty loams, clay loams; less permeable limestone, dolomites, and sandstone; anderately permeable till	10 ⁻⁵ - 10 ⁻⁷ cm/sec	1
Fine sand and silty sand; sandy loams; loamy sands; moderately sandscameable limestone, dolomites, and sandstone (no karst); moderately tractured igneous and metamorphic rocks, some coarse till	10 ⁻³ - 10 ⁻⁵ cm/sec	2
Fravel, sand; highly fractured gneous and metamorphic rocks; ermeable baselt and lavas; arst limestone and dolomite	>10 ⁻³ cm/sec	3

^{*}Derived from:

Davis, S. N., Porosity and Permeability of Natural Materials in Flow-Through Porous Media, R.J.M. Dawest ed., Academic Press, New York, 1969

Freeze, R.A. and J.A. Cherry, Groundwater, Prantice-Hall, Inc., New York, 1979

FIGURE 8
1-YEAR 24-HOUR RAINFALL
(INCHES)

本位图

Treas.

1111

RAKE

-Perior

Parket.

BARKE

CHAMES

PRINCE

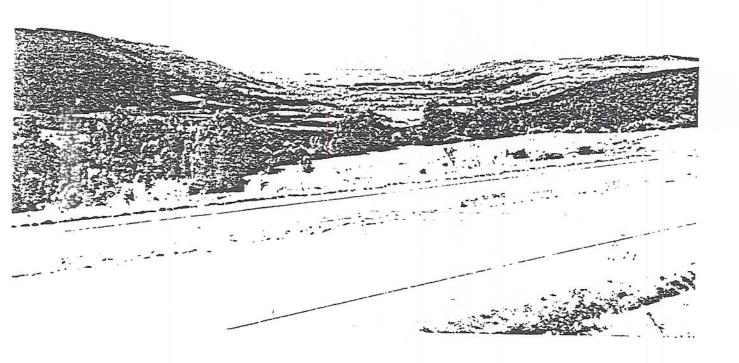
Bright

CONTAINMENT VALUES FOR SURFACE WATER ROUTE

ondition and adequate to contain vies, evaluate the containment		Assigned Value	t adequate 1		3 diversion	Assigned Valve	14111 0		reton 2	punosum s
d by diversion structures that are in sound or tear that are in sound or tear that are follows:	C. Manea Pilea.	Piles are covered and eurrounded by sound diversion or containment system	Piles covered, wastes unconsolidated, diversion or containment system not adequate	Piles not covered, wastes unconsoli- dated, and diversion or containment system potentially unsound	Piles not covered, wastes unconsolidated, and no diversion or containment or diversion system leaking or in denger or collapse	D. Jandilll.	Landfill slope pracludes runoff, landfill surrounded by sound diversion system, or landfill has adequate cover material	Landfill not adequately covered and diversion system sound	Landfill not covered and diversion system potentially unsound	Landfill not covered and no diversion system present, or diversion system unsound
o eurrounder										
ant the atte to terretain the the atte and a tte	Assigned Value	1	 	•	Assigned Value	-	~	nt J n		
Assign containment a value of 0 if; (i) all the waste at the aite is surrounded by diversion structures that are in sound condition and adequate to contain all rusoff, spills, or leaks from the waste; or (2) intervening terrain precludes runoff from entering surface water. Otherwise, evaluate the containment for each of the different means of storage or disposal at the site and assign a value as follows:	A. Surface Impoundment	Sound diking or diversion structure, adequate fresboard, and no erosion evident	Sound diking or diversion structure, but	Diking unsound, lesking, our in danger	B. Containers	Ass. Containers sealed, in sound condition, and sur- rounded by sound diversion or containment system	Containers sealed and in sound condition, but not surrounded by sound diversion or containment system	Containars leaking and divaraion or containment atructures potentially unsound	Containers leaking, and no diversion or containment atructures or diversion atructures leaking or in danest of collans	

SOIL SURVEY OF

Onondaga County, New York





United States Department of Agriculture Soil Conservation Service In cooperation with Cornell University Agricultural Experiment Station 100 SOIL SURVEY

24 inches for long periods of time. Rooting depth is range in size from less than 5 acres to more than mainly in the upper 24 to 30 inches of soil. Permeability of this zone is moderate, and the available water capacity is high. The capacity of these soils to supply phosphorus and potassium is generally medium, and to supply nitrogen, medium to high. In unlimed areas reaction of the surface layer is neutral to slightly acid, so lime needs are none to slight.

Seasonal wetness and the hazard of flooding are the main limitations. These soils are generally an

excellent source of topsoil.

÷

Representative profile of Teel silt loam in a cultivated area in the town of Onondaga, 150 feet east of the dug channel of Onondaga Creek, 2,500 feet west of U.S. Highway 11, 550 feet north of the Onondaga Indian Reservation line:

Ap-0 to 10 inches, dark-brown (10YR 3/3) silt loam; brown (10YR 43) rubbed; moderate, medium and fine, subangular blocky structure parting to weak, medium. granular; friable; many roots; neutral; abrupt. smooth boundary.

B21-10 to 21 inches, dark-brown (10YR 4/3) silt loam; common, fine, faint gray (10YR 5/1) mottles; weak, medium and coarse, subangular blocky structure; friable; common roots; many fine pores; neutral;

clear, wavy boundary.

B22-21 to 28 inches, dark grayish-brown (10 YR 4/2) silt loam: common, medium, faint yellowish-brown (10YR 5/6) mottles; weak, medium and coarse, subangular blocky structure; friable. firmer than horizon above: few fine roots; many pores lined with light brownishgray (10 YR 6:2) silt coatings; mildly alkaline; abrupt, wavy boundary.

C-28 to 60 inches, dark yellowish-brown (10YR 3/4) silt loam that has thin layers of light brownish-gray (10YR 6/2) silty clay loam; common, medium, faint brownish-yellow (10YR 6/8) and yellowish-brown (10YR 5/8) mottles; very weak, coarse, subangular blocky structure; friable; few fine roots; common fine and medium pores, nearly continuous clay linings in medium pores; mildly alkaline.

The solum ranges from 24 to 40 inches in thickness. Depth to bedrock is more than 40 inches. The solum is mostly silt loam, but it ranges to fine sandy loam. The C horizon is mainly silt loam to fine sandy loam. Layers of silty clay sediment are present in places. Coarse fragments are not common in the solum, but they make up as much as 5 percent, by volume, in places. Layers of gravel are common in the C horizon in shallower profiles. Reaction is slightly acid to mildly alkaline in the solum and neutral to moderately alkaline (calcareous) in the C horizon. Depth to low-chroma mottles or a horizon that has matrix chroma.of 2 or less and high-chroma mottles ranges from 10 to 24 inches.

The Ap horizon ranges from dark grayish brown (10YR 4/2) to dark brown (10YR 3/3). Dry values are 6 or 7. The Aphorizon is slightly acid to mildly alkaline.

The B horizon ranges from brown (10YR 5/3) to dark yellowish brown (10YR 3/4), dark grayish brown (2.5Y 4/2), and dark brown (7.5 YR 4/4). Chromas of 2 in the B horizon are inherited and do not indicate wetness. Structure is weak or moderate, medium or coarse, subangular blocky. The B horizon has moderately coarse prisms in places.

The C horizon ranges from light brownish gray (10 YR 6.2) to dark brown (10 YR 4/3) or brown (7.5 YR 5/4). Mottles are many or common. Consistence is friable or firm. Buried

surface layers are present in places.

Teel soils are closely associated with the well-drained Hamlin soils and the poorly drained and very poorly drained Wayland soils and formed in similar material. They are also near the well-drained, shaly Herkimer soils and the welldrained and somewhat excessively drained, gravelly Howard soils on fans.

Teel silt loam (Te).-This level or nearly level soil is on flood plains mainly along the larger streams in the county. Individual areas are irregular in shape and

Included with this soil in mapping are small at of Teel soils at slightly higher elevations that have slightly lighter colored surface layer and a brow subsoil and are subject to flooding only once in 5 t years. Also included are small areas of Wayland ; in shallow depressions and remnants of old oxbow stream channels that have been partly filled by d sition from floods. These wetter soils make u: much as 10 percent of some areas, and they : drainage for crops. Other inclusions are small a of Hamlin soils on slightly higher areas adjacer. streams. These better drained soils make up as m as 15 percent of some areas, but they have little e: on use and management.

This soil is suited to crops, hay, pasture, and to It is generally better suited to annual crops o perennial crops that can tolerate flooding and it dation early in spring than to most other uses some places the surface layer is subject to scou by rapidly flowing flood water if it is left wit protective cover. In many places streambanks subject to cutting during floods or periods of hiwater. Capability, unit IIw-2; woodland suitat

group 2o2.

Urban Land

Urban land (Ub) consists of areas so altereobscured by urban works that identification of soils is not feasible. Buildings or pavement co more than 50 percent of such areas. Urban includes the downtown business district of the cit Syracuse and the larger shopping complexes industrial parks with their buildings and large, p: parking lots in both the city and its suburbs. assigned to a capability unit or woodland suitat

Varick Series

The Varick series consists of moderately c poorly drained, medium-textured soils. These formed in thin till deposits or partly in resid derived mainly from the underlying gray shale rock. They are on uplands where bedrock affect: relief. They commonly receive large amounts of off or seepage from adjacent higher, better dra

In a representative profile the surface layer is dark gray silt loam 8 inches thick. Between dept 8 and 15 inches is a subsurface layer of mo: grayish-brown, friable silt loam. Between depths and 30 inches, the subsoil is mottled, dark gra brown, firm silty clay loam. The substratum, bet depths of 30 and 34 inches, is mottled, grayish-br firm shaly silt loam. Dark-gray, brittle shale beis at a depth of 34 inches.

Varick soils have a prolonged high water tabldepth of 6 inches or less in places. It is perched c slowly permeable or very slowly permeable s: and substratum. Rooting depth is limited by we mainly to the upper 18 inches. The available: capacity of this zone is moderate. More than er

HAZARDOUS WASTE SITE DOSSIER

I. Site Name and Location:

Oberdorfer Foundries, Inc.
Thompson Road
Syracuse (DeWitt) Onondaga County, New York 13201

II. Background to Investigation and Source of Initial Referral:

This site is listed in the NYSDEC's Technical Report "Toxic Substances in New York's Environment", May 1979.

III. Site Description:

Oberdorfer Foundries, Inc. is located in a heavily industrial-commercial section of the eastern portion of the City of Syracuse. The company, which has been located at this site since 1922, casts aluminum (90% of castings) and brass items used in engine assemblies (engine blocks) and manufactures small centrifugal pumps. Foundry operations include sand molding, core making, metal melting and pouring, cleaning and machining.

Typical of foundry operations, the manufacturer disposed of spent core sands, molding sands, contaminated sand, refractory linings, bentonite and binder clay, metal oxides and metal scraps includes Al-fines and baghouse dust at a dump on its property. There are actually two dumps, an inactive one, which was filled, graded, seeded and is now covered with heavy vegetation, which helps to stabilize the landfilled sand. An active one, located southeast of the old disposal site. The dumps reflect the historical change of foundry metals: in the past it was bronze and magnesium and now it is brass and aluminum. Allegedly spent sands were used as a fill material throughout the East Syracuse area. The present aluminum casting operations produce approximately three tons of landfillable material (such as sands and shot blast dust) for every ton of shippable castings.

The active dump, located within the industrial complex, is fenced. The facility, as well as the area, is served by public water supply. There are neither residences nor private water wells in the vicinity of this industrial site. At this time information is not available on the actual acreage of the disposal site, or on the underlying geology and depth to the ground water.

IV. Allegations of "Imminent Hazard" Pollution:

Oberdorfer has studied the problem of potential leachate effects due to their sand disposal operation. During visit by NYSDEC inspectors no leachate was observed. The active dump receives various grades of sand, containing different chemical binders (phenolic resins, such as phenol-formaldehyde, phenolisocyanate, phenol-urea and sodium-silicate among others). The company is continuing to investigate the characteristics of the landfilled sand.

Part IV. continued:

At present time there are three wastewater outfalls, from process and cooling waters, into the nearby Ley Creek, for which the company has a NPDES permit. Oberdorfer is now modifying its water usage to either eliminate some flows, create closed loop systems, or connect to the municipal system.

Other operations at the plant, which generate waste products, are handled in environmentally acceptable ways: waste oil, about 100-150 gallons per year is used for dust control on site; metal scrap and dross are sent to recycling firms and solvents, such as 1,1,1-Trichloroethane are also recovered.

Regarding the leaching of uncured phenolic binders from landfilled sands, the company has calculated that potentially about 0.00022 lb (=0.1g) leachable phenol may be obtained from every pound (453.6g) of waste sand.

No leachate was observed near Oberdorfer's dumps. If any phenol were being leached from the sands, it would show up in ground water and/or the Ley Creek, which is the nearest surface water. Samplings of surface waters, near the active dump site did not reveal phenol concentrations in excess of applicable State Water Quality Standards (maximum concentration measured was 0.003 ppm). Sampling study of May 17, and June 28, 1979.

According to the NYSDEC's Region 7, Environmental Quality Office this landfill is being managed in an environmentally consciencious manner. At this time the operation of this site appears to present no serious public health or environmental hazard.

V. Current Involvement:

Oberdorfer has a valid NPDES permit for diposal of its wastewaters and has all other permits necessary for its operation. There are no known past or present legal actions against this company.

VI. Information Still Needed:

In the past there were cases of groundwater contamination from phenolic compounds leaching from landfilled foundry sands of similar facilities (in Region 9). Therefore, it is recommended to sample Ley Creek, both upstream and downstream of the site, to determine if-in fact-any phenol, other binder material or heavy metals are present in the surface waters. No remedial measures are contemplated.

VII. Conclusion and Recommendation:

Active foundry sand disposal sites should be periodically monitored to preclude the possibility of developing serious environmental problems.

The NYSDEC considers this site a class "E" priority, which states:
"Properly operated or closed and maintained site; periodic surveillance
and chemical analysis required". It also lists the site as "Priority 2"
which states: 'Material on site may pose a threat to the environment or
public health, but information is presently insufficient to judge the
severity of threat. FURTHER EVALUATION REQUIRED".

The Task Force considers this a "Madin Daisaited air -- 1 --

RACER0057996

NEW YORK STATE DEPARTMENT OF HEALTH DIVISION OF LABORATORIES AND RESEARCH ENVIRONMENTAL HEALTH CENTER

PESULIS OF EXAMINATION (PAGE 1 OF 1)

LAB ACCESSION NO: 01945 YR/MO/DAY/HR SAMPLE REC'D: 79/05/1//12

REPURITING LAD: 54 SYRACUSE LAB PROGRAM: 520 INDUSTRIAL WASTES

STATION (SOU-CE) AU:

PARAMETER

DRAINAGE BASIN: U/ MY GAZETTEER NO: 3501 COUNTY: OMUNDAGA

COURDINATES: DEG ' "N, DEG ' "N

COMMON MAME INCL SUBMISHED: UBERDURFER FUUNDRY LET CHEEK

TYPE UP SAMPLE: 22 WATER/WASTE MIXT.

AC704Y/HH OF SAMPLING: FROM 00/00 TO 05/17/99

REPORT SENT TO: CO (0) RO (2) LPHE (1) LHO (0) FED (0) CHEM (0)

,			*	
100501	L.O.D.	MG/L	19.	. Зн
002701	PHEROLS	MG/L	0.005	
092991	HYDRULYZABLE CYANIDES	MG/L	.01	L!

UNIT

DATE COMPLETED: 0/04//9

HEGINA /. ENVIRONMENTAL COMSERVATION DEPT. REGINA /. ENVIRONMENTAL QUALITY OFFICE /81 NENRY CLAY BULLEVARD

MOIVION

RESULT

STATE OF NEW YORK

OFFICIAL COMPILATION

OF

CODES, RULES AND REGULATIONS

MARIO M. CUOMO Governor

GAIL S. SHAFFER Secretary of State

Published by DEPARTMENT OF STATE 162 Washington Avenue Albany, New York 12231

1/83

CN 1-15-6 ACER005

PART 895

ONONDAGA LAKE DRAINAGE BASIN

(Statutory authority: Public Health Law, art. 6)

Sec.		Sec.	
895.2	Adopting order Definitions and conditions	895.4 895.5	Table I Map 1
895.3	Assigned classifications and stand- ards of quality and purity	895.6	Quadrangle maps

Section 895.1 Adopting order. Pursuant to the authority contained in article 6 of the Public Health Law, the Water Pollution Control Board having made proper studies and having held a public hearing on due notice with reference thereto, hereby adopts and assigns the following classifications and standards of quality and purity to the various waters as specifically designated and described below and subject to the definitions and conditions as stated.

- 895.2 Definitions and conditions. The several terms, words or phrases hereinafter mentioned shall be construed as follows:
- (a) Class as appearing in table I, as the letters AA, B, C, D, E or F opposite each specifically designated waters means class AA, B, C, D, E or F as the case may be as set forth in Part 701, supra.
- (b) Standards as appearing in table I, as the letters AA, B, C, D, E or F opposite each specifically designated waters shall mean—the standards of quality and purity established for class AA, B, C, D, E or F, as the case may be as set forth in Part 701, supra. The symbol (T) after any class designation shall mean that the designated waters are trout waters and that the dissolved oxygen specification for trout waters shall apply thereto.
- (c) Waters index number as appearing in table I shall mean that number which has been applied to any specifically designated waters which appear on the maps set forth in section 895.6, infra.
- (d) Name as appearing in table I shall mean the name, if any, by which the specifically designated waters are generally known and which name, if any, appears on the reference maps. In cases of specifically designated waters which have no name, the named tributary to which the unnamed waters are tributary is indicated so far as possible. In the tables in the column headed "Name", the unnamed water to which an unnamed tributary is directly tributary is referenced so far as possible to a specific item number. In the tables, an item number is assigned consecutively to each specifically designated waters.
- (e) Description as appearing in table I shall mean a brief indication as to location of the specifically designated waters so that by reference to reference maps such waters may be located without reference to their waters index numbers. Entries under column headed "Description" also include designations of sections of a stream to which a particular assignment of a class and standards shall apply.
- (f) Map ref. no. The numbers appearing in the tables under this heading designate the following maps which have been partially reproduced as maps 1 to 12, inclusive, with superimposed tracing in black of streams and other waters and waters index numbers in section 895.6, infra.

Map ref. no.	Name of quadrangle	Published by	Edition
1	Brewerton, N. Y.	U.S. Geological Survey	1943
2	Jordan, N. Y.	Corps of Engineers, U.S. Army	1943
3	Camillus, N. Y.	Corps of Engineers, U.S. Army	1943
4	Syracuse West, N. Y.	U.S. Geological Survey	1947
5	Syracuse East, N. Y.	U.S. Geological Survey	1943

ž	1		
	1		
	1		

TABLE I (contd.)

CHAPTER X DIVISION OF WATER RESOURCES

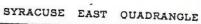
Item No.	Waters Index Number	Name	Description	Map Ref. No.	Cluss	Standard
10	P 154-3	Ley Greek	Enters Onondaga Lake 0.2 mile southeast of point where City of Syracuse line intersects east shore of lake. From mouth to Ley Creek sewage treatment plant outfall sewer.	. ·	۵	a
Π,	P 154-3 including tribs. 1A and 1B which enter from north approximately 3.0 and 3.1 miles above mouth respectively	Ley Creek	From Ley Creek sewage treatment plant outfall sewer to South Branch designated as item no. 15.	4, 5	£	2
12	P 154-3	North Branch Ley Creek	From South Branch designated as Item no. 15 to source.	2	a	Q
13	P 154-3-A	Trib, of Ley Greek	Encers Ley Creek from south approximately 1.1 miles from mouth.	7	Q	a
14	P 154-3-1 and all cribs.	Beartrap Creek	Enters Ley Greek from north approximately 1.1 miles from mouth.	7	ပ	c(T)
1.5	15 P 154-3-2	South Branch	Enters Ley Creek from south 4.0 miles from mouth.	2	Q	Q

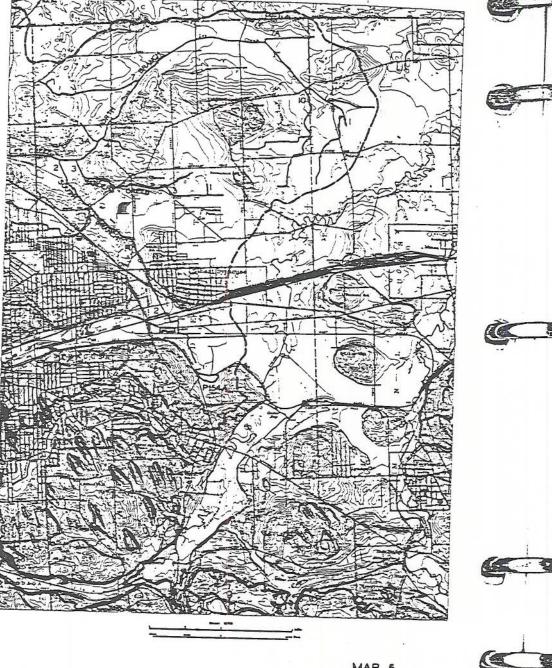
3191 CN 1-15-67 RACER0058000

§ 895.4

895

Ch. X Division of Water Resources (conjuged)

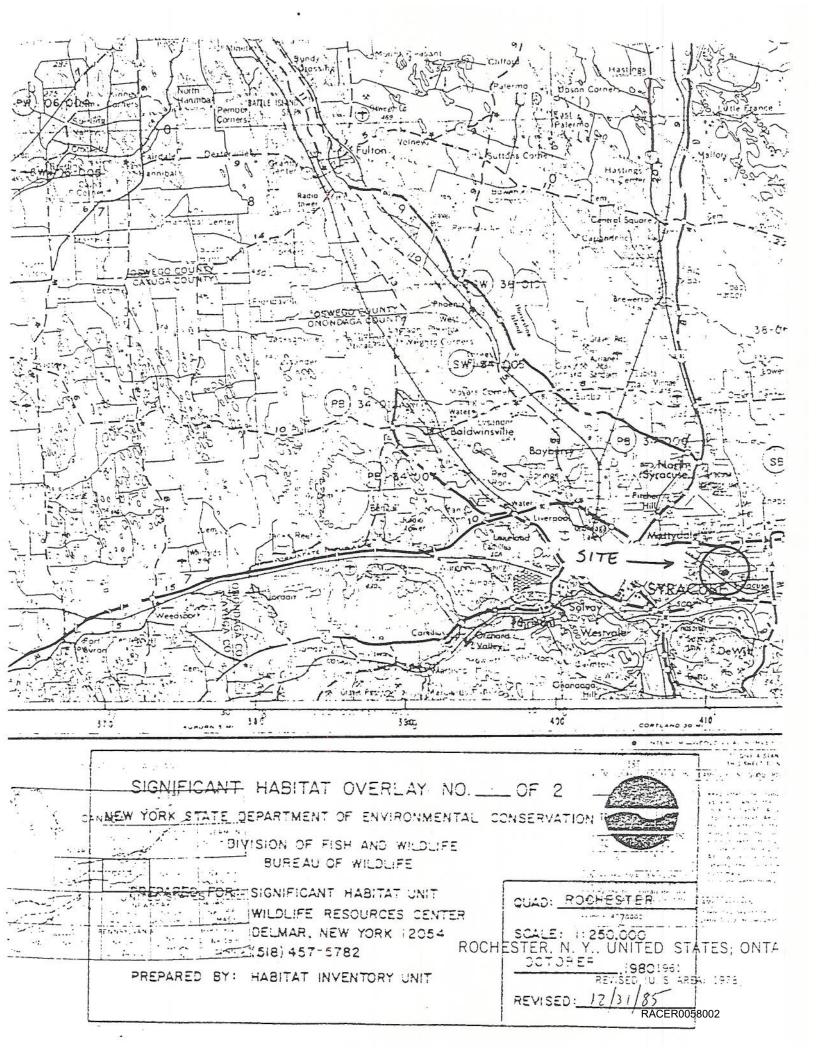




MAP 5

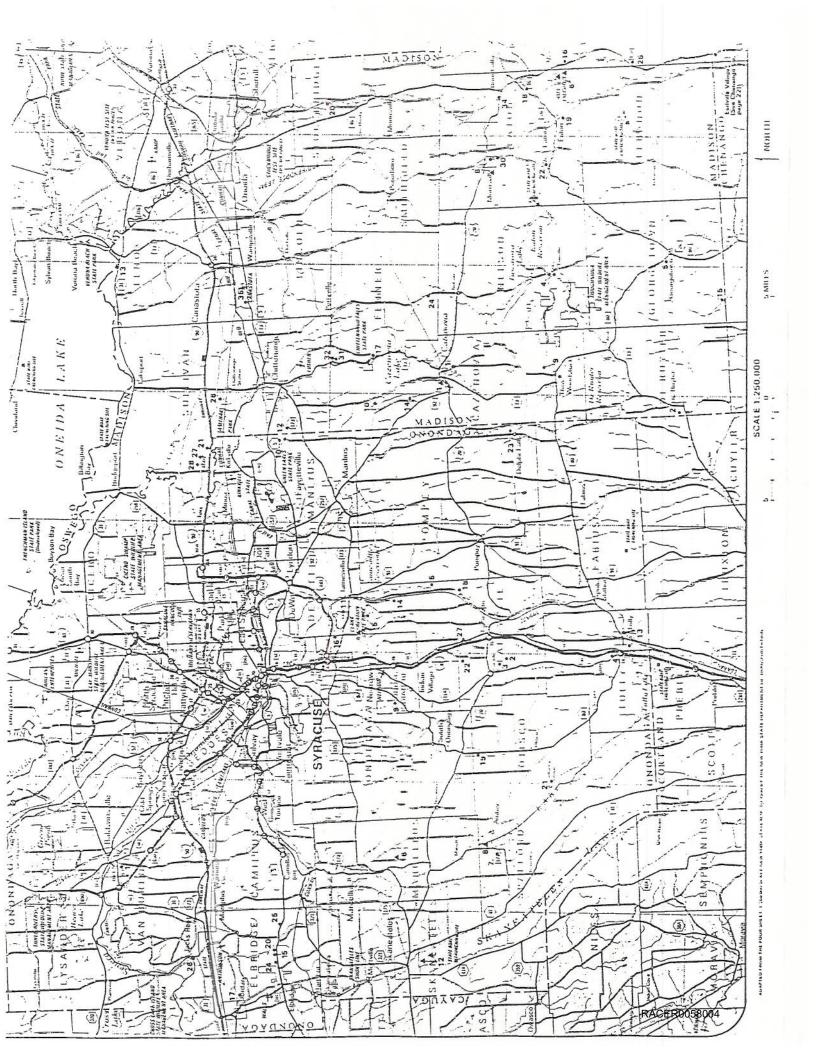


3214 CN 1-15-67



ONONDAGA COUNTY

ONONDAGA GGG	
ID NO COMMUNITY WATER SYSTEM POPULATION	SOURCE
Municipal Community 6500.	Wells
Municipal Community 1 Baldwinsville Village	Wells (Spring)
Baldwinsville Village	. Wells (Springs)
Baldwinsville Village	Rockwell Spring
o Marce Roard (See No)	
Metropolitical Page 301	Calle (Spring)
7 Mountain Gren Water Authority 130000.	
9 Onondaga Thuran Inc	
10 Skyridge Common lamesville Water District NA.	Skaneateles Lake
12 Syracuse City	Wells
13 Tully Village	
Non-Municipal Community . 54.	wells
Non-Municipal Community 14 Black's Breezy Acres	
17 Edgewood The Mobile Manor	Wells
22 Parc Du Bois Mobile Court 222.	Wells
25 Smith Trailer Park	
27 Willowwood Apartments	



PC30-1-B34 N.Y.

OHARACTERISTICS OF THE POPULA

General Populati Characteristics MEW YORK

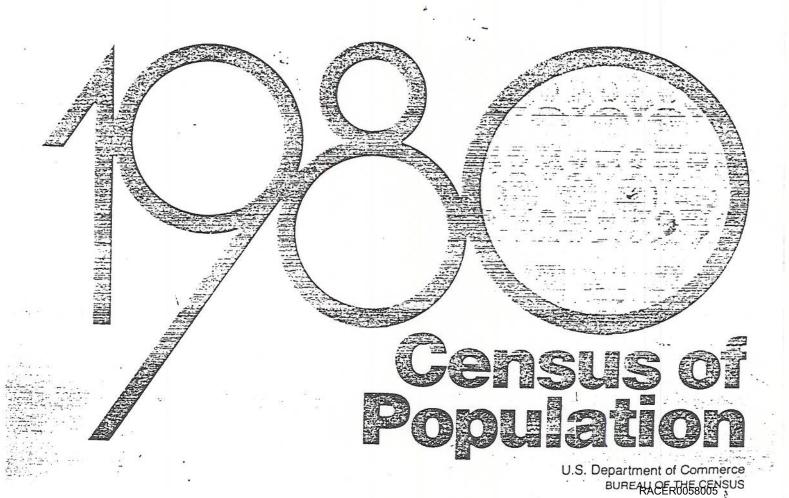


Table 14. Summary of General Characteristics: 1980—Con.

The State	For meaning of	symbols, se	e Introdu	ction. For	definitions a	210		A and B]							louseholás	\neg
Urban and Rural and Size of Place Inside and Outside SMSA's SCSA's SMSA's				P	ercent		MSONS			now m	ars and Percent arried, iding rated	In group	quarters		lonzenordz	
Urbanized Areas Places of 1,000 or More Counties	Total	Change 1970-80	Block	Spanish origin	Under 18 years	18 to 64 years	65 years and over	Median oge	Fertility ratio	Male	Female	Total	Percent of total persons	Tatal	Percent change 1970–60	Persons per house- noid
PLACES OF 1,000 OR MORE—Con.																
Castocue villoce Croton-on-Hucson village Crown heights (CDP) Cube village Cutnoque-New Suffolk (CDP) Donnemore village Donsville village Deer-Park (CDP) Deervan village Delen village Delen village	2 786 6 889 3 225 1 739 2 788 3 770 4 979 30 394 1 113 3 374	16.1 -8.4 -2.0 0.2 0.9 -8.4 -5.7	4.6 1.9 6.9 3.6 29.3 0.8 7.0	1.3 2.3 2.0 0.4 0.7 15.3 0.7 3.5	28.5 27.5 33.5 30.3 23.3 11.4 28.1 30.0 33.0 12.9	53.8 60.0 61.7 52.7 53.8 84.3 56.8 63.6 57.0 77.5	17.6 12.5 4.8 17.0 22.9 4.3 15.1 6.4 10.1 9.5	32.7 34.6 28.9 31.0 43.8 29.9 32.8 29.6 28.4 20.0	366 231 197 330 266 359 264 184 287 88	42.7 67.4 64.1 68.4 70.7 38.0 64.4 63.2 65.8 25.0	52 7 59 2 62 6 55 2 62 3 60 7 56 4 59 0 64 2 25 3	161 42 2 434 13 20 6 1 382	2.4 -2.4 -64.6 0.3 0.1 0.5 41.0	1 069 2 335 979 645 1 085 462 1 938 8 671 380 761	38 7 1.7 16 0 3.0 5.7 7 2 17.4	2 61 2.88 3.2° 2.53 2.57 2.89 2.55 3.50 2.91 2.62
Dermar (CDP: Denoew village Denosit village De Witt (CDP: Dexter village Ex Hills (CDP) Dobos Ferr village Dodewile village Dodewile village Dover Plans (CDP) Dryden village	8 423 19 819 1 897 9 024 1 053 26 693 10 053 2 602 1 753 1 761	-10.6 -8.0 -10.0 -0.8 165.6 -2.9 -9.4	0.4 0.6 	0.7 0.4 0.7 0.9 2.0 3.6 0.6 1.0	26.3 29.0 31.4 24.7 34.8 36.0 25.0 28.4 24.3 30.3	57.7 62.9 51.4 64.6 53.9 59.4 62.1 52.8 56.1 58.6	16.0 8.1 17.2 10.9 11.3 4.6 12.9 18.8 19.6	36.6 30.6 31.6 29.1 29.0 30.7 34.6 33.2 36.1 28.6	258 212 339 192 295 187 177 369 328 292	72.4 64.0 65.9 54.2 67.6 67.8 61.4 67.0 65.6 63.4	61.1 59.8 55.9 49.5 55.4 65.5 52.8 54.7 59.0 54.7	1 315 218 795 20	14.6 - 0.8 7.9	3 186 6 577 708 2 738 350 6 985 3 589 1 C30 7C2 682	4.1 -1.5 11.1 179.4 13.9 -2.5	2.64 3.01 2.68 2.82 3.01 3.79 2.56 2.53 2.47 2.58
Dundee village Dunkirk city Fast Aurora village Fast Cavuga neants (CDP) Fast Farmingdale (CDP) Fast Harmoton village East Hills village Fast Hills village Fast Hills (CDP)	1 556 15 310 6 803 2 630 20 305 5 522 6 537 1 886 7 160 13 852	1.1 -9.2 -3.3 0.7 -14.5 10.8 7.6 -17.5 101.9	1.2 3.4 0.3 3.5 0.5 15.8 0.7 1.2 1.1	1.2 7.5 0.2 2.6 1.5 5.2 0.6 2.0 0.9 2.4	28.8 26.9 27.7 27.1 21.9 23.3 29.0 17.2 29.2 30.9	53.9 57.6 55.1 67.6 61.3 70.0 57.3 56.5 64.7 60.8	17.3 15.5 17.2 5.3 16.8 6.8 13.7 26.3 6.1 8.3	32.6 32.2 33.6 28.5 38.6 23.9 35.3 50.4 37.2 29.3	255 322 265 229 178 177 222 136 197 235	59.8 61.4 66.1 55.1 67.7 47.2 71.0 62.1 75.4 62.5	53.4 53.7 52.7 58.5 56.5 48.2 63.9 52.1 71.6 58.5	23 83- 334 - 1 089 478 30 - 184	1.5 0.5 4.9 	5 710 2 368 950 7 700 1 430 1 974 828 2 251 4 055	23.8 3.0 5.0 24.0 -4.1 31.2 23.6 -2.2 111.7	2.54 2.67 2.73 2.77 2.64 3.10 3.07 2.24 3.18 3.37
East Massaceaua (CDP) East Meacow (CDP) East Middlerown (CDP) East Northpoor (CDP) East Patchague (CDP) East Oucque (CDP) East Oucque (CDP) East Rockaway vidage East Svracuse viilage East Svracuse viilage East Williston viilage	13 987 39 317 4 330 20 187 18 139 3 668 7 596 10 917 3 412 2 708	-12.2 -15.1 64.0 62.9 124.2 220.9 -9.0 5.8 -21.3 -3.6	1.8 7.1 0.3 1.2 1.0 0.3 0.1 0.1	1.6 2.1 6.4 2.1 4.2 0.6 0.6 2.0 0.7 1.5	27.3 25.4 31.3 31.4 28.0 22.8 24.5 25.4 26.6 26.7	65.4 67.7 55.2 60.6 59.0 56.1 62.8 62.0 61.0 60.6	7.3 7.0 13.5 8.1 13.0 21.2 12.7 12.6 12.4 12.8	33.1 32.5 30.4 30.2 31.8 38.2 31.3 33.2 30.9 37.7	190 244 352 250 304 285 248 218 224 167	63.8 64.9 66.0 64.8 67.7 68.8 60.4 65.9 55.7 68.7	59.5 63.7 56.2 61.8 60.9 63.1 53.9 56.5 50.0 60.8	162 850 130 100 351 - 114 114	1.2 2.2 3.0 0.5 1.9	3 910 11 723 1 492 6 040 6 236 1 492 2 850 3 787 1 276 852	2.3 -0.4 66.5 89.0 155.9 256.9 7.3 17.1 -0.5 4.2	3.54 3.28 2.32 3.33 2.85 2.46 2.63 2.85 2.67 3.18
Earons Neck (CDP; Eden (CDP; Eloniage visage Elentville vinade Elma Center (CDP) Elmira crv Elmar Heights visage Elmar Heights North (CDP) Elmort (CDP) Elmort (CDP) Elmort (CDP) Elmort (CDP) Elmort Visage	1 574 3 000 1 099 4 405 2 459 35 327 4 279 2 659 27 592 3 361	1.3 5.7 -1.7 -11.7 -11.6 -12.9 -8.5 -6.0 -14.1	0.1 0.2 13.6 9.9 0.8 0.9 6.3 17.8	0.8 0.7 0.9 19.2 0.4 1.7 0.6 0.3 4.6 3.4	32.1 30.5 30.2 28.1 27.9 25.4 22.3 24.8 23.0 22.5	62.7 59.9 61.1 56.6 62.5 59.0 59.1 62.3 65.0 63.8	5.2 9.6 8.7 15.3 9.6 14.6 12.9 12.0	33.7 31.5 31.4 32.3 35.0 28.3 36.6 35.5 35.3 35.0	128 227 215 334 170 301 201 229 203 191	60.7 65.2 73.4 60.0 67.3 49.9 62.8 65.6 64.4 59.6	67.0 62.4 60.7 55.6 63.0 45.5 50.8 58.9 58.9 56.1	3 071 	1.3 1.4 8.7 - 0.9 0.3	474 949 388 1 670 790 12 690 1 825 966 9 015 1 209	15.5 21.6 7.9 4.9 -1.1 13.8 8.3 5.7 -0.7	3.32 3.12 2.83 2.60 3.11 2.54 2.75 3.03 2.77
Etwaod (CDP) Endicott village Enawell (CDP) Formount (CDP) Fournount (CDP) Fournount village Formew (CDP) Foliconer village Formingdale village Formingdale village Formingdale (CDP) FoyetTeville village	11 847 14 457 13 745 13 415 5 970 5 852 2 778 7 946 13 398 4 709	-21.2 -12.7 -14.1 -12.4 -7.8 -31.3 -6.9 -14.5	3.1 1.2 1.0 0.4 0.9 4.5 0.4 0.1 0.8	1.9 1.0 0.8 0.6 0.5 1.3 1.1 3.6 5.7	32.2 21.4 26.8 29.5 29.5 19.8 25.2 23.4 38.4 27.1	61.7 61.8 62.8 62.3 61.5 57.7 56.9 62.7 54.7 62.5	6.1 16.8 10.4 8.2 10.0 22.5 17.9 13.9 6.9	30.9 31.6 33.7 32.4 30.3 41.6 36.3 32.8 26.9 33.2	172 248 220 224 264 190 224 231 320 222	52.9 56.8 66.4 68.1 66.7 50.4 64.4 62.8 72.5 67.8	61.5 49.3 61.8 62.6 60.6 48.1 55.5 53.5 66.2 60.4	71 132 - - 1 291 56 139	0.6 0.9 - - 23.8 2.0 1.7	3 248 6 173 4 948 4 379 2 184 1 640 1 107 2 927 3 753 1 778	-11.1 2.9 6.4 6.5 5.5 9.2 3.8 -5.4	3.63 2.32 2.75 3.06 2.73 2.72 2.4e 2.67 3.57 2.55
Fernwood (CDP) Firshall village Fioral Parx village Florada village Flower Hill village Fonda village Fonda village Fonda village Fort Baward village Fort Mantgamery (CDP) Fort Plan village	3 640 4 430 1 555 16 805 1 947 4 558 1 006 3 561 1 396 2 555	-0.5 10.1 -9.0 16.3 1.6 -10.2 -4.6	0.4 0.7 3.3 0.1 0.6 0.8 0.8 0.3	0.6 2.5 1.9 2.0 1.1 2.7 0.4 0.2 1.4 1.5	33.0 30.5 20.6 24.7 25.0 27.0 28.2 33.8 28.2 27.2	61.0 56.7 56.3 60.4 61.4 61.8 57.3 55.6 60.6 56.1	6.0 12.8 23.0 14.9 13.7 11.2 14.5 10.6 11.2 16.8	30.5 32.2 39.3 34.4 34.2 37.9 29.3 27.3 30.5 35.0	215 288 211 210 258 196 329 330 272 329	67.7 67.1 69.3 64.1 71.9 56.6 64.5 67.7 68.2	64 4 60.3 56.2 54.8 63.1 65.2 52.8 54.0 63.9	59 	1.3 0.1 1.5 6.1 0.3	! 154 1 582 687 5 780 676 1 426 367 1 167 526	20.1 20.9 1.9 25.7 14.0 -5.7 6.5	3.15 2.76 2.26 2.9: 2.88 3.15 2.57 3.04 2.65 2.54
Fort Saionga (CDP) Frankfort village Frankiun Sauare (CDP) Frankiun Sauare (CDP) Frankiunnile village Freooni village Freeooni village Gargen City village Gargen City Villag	9 550 2 995 29 051 1 887 11 126 38 272 1 908 1 461 13 312 2 300 22 927 7 712 4 238 1 339	-9.4 -9.7 -3.1 -7.7 -5.2 7.7 13.7 -4.9 82.8 -9.6 -3.0 -8.1	0.3 0.1 0.1 1.7 31.0 - 2.5 0.6 1.7 1.1 5.7 2.1 0.9	1.3 0.2 2.1 0.3 1.0 10.9 0.3 0.5 0.4 0.3 1.9 2.7 2.2 0.5	31.8 25.0 21.2 30.6 19.2 29.2 28.9 26.2 30.5 25.3 22.1 27.8 28.0	60.8 58.7 54.3 53.1 71.3 60.7 56.3 51.9 64.0 60.2 64.4 60.7 54.9	7.3 15.3 14.4 16.3 9.6 10.1 14.7 12.0 13.9 5.5 14.0 13.5 11.5	32.1 33.0 38.2 32.8 22.6 30.9 32.3 26.9 31.1 29.6 37.3 37.0 32.6 33.4	192 292 200 320 124 245 256 403 334 294 161 190 262 255	66.8 65.3 66.7 68.1 43.0 60.0 63.8 66.3 64.7 67.5 65.4	64.6 54.3 59.3 56.2 38.5 62.6 62.6 65.4 68.9 57.5 62.7 62.7 62.7 62.7	17 14 250 2 468 255 62 - 120 868 - 91	0.2 0.5 0.9 -22.2 0.7 3.2 -9 0.9 3.8	2 816 1 126 9 747 698 3 328 12 726 628 489 5 088 821 7 146 2 512 1 418 427	3.2 51-1.3 18.0 1.3 15.0 24.7 9.3 115.5 -3.2 20.4	2.38 2.65 2.95 2.70 2.60 2.99 2.94 2.99 2.59 2.80 3.09 3.07 2.99 2.92

EPA FORMS 2070-12 AND 2070-13

0		AF
6.3	-	
40		8 5

POTENTIAL HAZARDOUS WASTE SITE

I. IDENT	TEICATION
01 STATE	G2 SITE NUMBER
NY	734017

PART	PRELIMINAR 1 - SITE INFORM			Page 2	STATE 02 SITE NUMBER NY 734017
II. SITE NAME AND LOCATION					
01 SITE NAME (Laga, common, or descriptive name of see)		TO2 STREE	T. ROUTE NO. O	A SPECIFIC LOCATION IGEN	TIFIFA
Oberdorfer Foundries, Inc.			mpson Ro		
Syracuse (DeWitt)		04 STATE NY	05 ZIP CODE 13201	Onondaga	CODE OIST
	NGITUDE				
<u>43°14 22.</u> <u>076°</u>	05 29	1			
Interstate Highway 90 to Carrier is located on right.	Circle, South	on Tho	mpson Ro	ad for approxima	ately 1 mile. Plant
III. RESPONSIBLE PARTIES					
01 OWNER (I mount			(Buenoss, morry,	MANAGER AND THE C	
Oberdorfer Foundries, Inc.			npson Roa	ad	
os city		1	05 ZIP CODE	06 TELEPHONE NUME	The state of the s
Syracuse, Town of DeWitt .		NY	13201	(315)437-036	31
O7 OPERATOR (II znown and callorant train downer) Same		08 STREET	(Business, meeng, r	ucdorwed	
09 CITY		10 STATE	11 ZP CODE	12 TELEPHONE NUMB	AER .
				()	
CONT CONT	EPA B. EP/ LOCAL HEALTH OFFI RACTOR NAME(S): 03 YEARS OF OPER	A CONTRAC	F. OTHER: _ ehran Eng	C. STATE	ONTH DAY YEAR G. NONE OTHER CONTRACTOR WI KNOWN
Phenolic Resins (Phenol formaldh os description of potential hazard to environment and Possible leaching of substances m water supply and wastewater disc	yde, phenol iso wonpopulation entioned abov	e to the	aquifers	used by residenc	
V. PRIORITY ASSESSMENT					
DI PRIORITY FOR INSPECTION (Chocs one. If high or medium is expected. □ A. HIGH (Inspection required promptly) □ B. MEDIUM (Inspection required)	CONTROL PORT 2 - WARRE PARTY G. LOW (Present on series)	oración const)	D. NONE	propes Consissed and incularies and action record, correlate curre	rd disposition forms
VI. INFORMATION AVAILABLE FROM				**************************************	
DI CONTACT	02 OF IAgency Organic				03 TELEPHONE NUMBER
Dennis G. Fenn			ineering		(914)343-0660
Linda M. Palladino	05 AGENCY	Wehra	.n	914 343-066	11 25 85



POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT PART 2 - WASTE INFORMATION

L	10	EN	TI	FIC	A	TI	ON
_			_	-	_		

NY 734017

IL WASTEST	ATES, QUANTITIES, AN	O CHARACTER	ISTICS				
	TATES , Chace as the account	DZ WASTE QUANT	ITY AT SITE	03 WASTE CHARACTE	PISTICS ICANO MINE I		()
∑ c. stnoce ∑ y sono	□ a avs		73,000 54,000 cy	XT A TOXIC II S CORROS II C C RACIOA II C PERSIST	CTIVE G G FLAM	TIOUS I J. EXPLOS MABLE I X. REACTI	VE PATIBLE
C 0. OTHER	(Specify)	NO OF CRUMS .					
III. WASTET	YPE						
CATEGORY	SUBSTANCE N	AME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 CCMMENTS		
SLU	SLUDGE						
OLW	OILY WASTE		unknown		100-150	gal/yr.	
SOL	SOLVENTS		unknown		now red	eveled	
PSO	PESTIC:DES						
occ	OTHER ORGANIC CH	EMICALS	unknown				
100	INORGANIC CHEMIC	ALS					
ACD	ACIDS						
BAS	BASES						
MES	HEAVY METALS	scraps	unknown		now rec	vcled	
IV. HAZARDO	OUS SUBSTANCES 1500 AL	comment for most frequen	ey cres CAS Managers)			,	Tague (euge ne
01 CATEGORY	02 SUBSTANCE N	AME	03 CAS NUMBER	04 STORAGE DISE	POSAL METHOD	05 CONCENTRATION	OR MEASURE OF CONCENTRATION
	Phenols						
							<u> </u>
		*					
						7.	
V. FEEDSTO	CXS (See Accorded to CAS Municipal)	eval					
CATEGORY	01 FEEDSTOC	XNAME	02 CAS MUMBER	CATEGORY	01 FEEDST	OCK NAME	02 CAS NUMBER
FDS				FDS			
FDS				FDS			
FDS				FOS			
FDS				FDS			
VI. SOURCE	S OF INFORMATION ICE	specific references, ø g.	. state feet, service every set,	/900/TS)			
Cber	DEC Data on File dorfer Foundries, nspection, March	Inc. 18, 1985 by	Wehran Engir	neering			٠

BEPA

POTENTIAL HAZARDOUS WASTE SITE

PRELIMINARY ASSESSMENT

L	DENT	TEICATION
01	NY	734017

	TION OF HAZARDOUS CONDITIONS AND INCID	ENTS CTHE	
IL HAZARDOUS CONDITIONS AND INCIDENTS			
01 À A. GROUNDWATER CONTAMINATION UN. UN.	known 02 G Caserved (Date:	MINEROS Ž	C ALLEGED
Potential contamination of wate miles from site.	er supply aquifers used by private reside	nces between 2 to	3
01 \$\overline{\o	known 02 Caserved (Date:	ALL POTENTIAL	المستعدد
Potential contamination of Ley	Creek-South Branch		_
01 II C. CONTAMINATION OF AR 03 POPULATION POTENTIALLY AFFECTED:	02 C OSSERVED (DATE:	C POTENTIAL	C WIRCED
Unknown			*
01 C 0. FREJECTLOSIVE CONOTTIONS 03 POPULATION POTENTIALLY AFFECTED: Unknown	02 CESSERVED (DATE:	C POTENTIAL	C ALLEGED
01 C E CIRECT CONTACT 03 POPULATION POTENTIALLY AFFECTED: Unknown	02 G OSSERVED IDATE:) 04 NARRATIVE DESCRIPTION	CI POTENTIAL	C ALLEGED
O1 X F. CONTAMINATION OF SCAL O3 AREA POTENTIALLY AFFECTED: Leachate may contaminate soil.	02 C CASERVED (DATE:) 04 NARRATIVE DESCRIPTION	ZYPOTENTIAL	C WIECED
01 CG. CRINKING WATER CONTAMINATION UNK 03 POPULATION POTENTIALLY AFFECTED: unk Potential contamination of water site.	nown 02 C CASERVED (DATE:) 04 NARRATIVE DESCRIPTION 1 supply aquifers used by private residen	Ces between 2-3 r	CALEGED miles from
01 C H. WORKER EXPOSUREMURY 03 WORKERS POTENTIALLY AFFECTED: Unknown	02 COSSERVED (CATE:) 04 NARRATIVE DESCRIPTION	CI POTENTIAL	C ALEGED
01 C.I. POPULATION EXPOSURE THURY 03 POPULATION POTENTIALLY AFFECTED: Unknown	02 C OBSETVED (DATE:) 04 NARRATIVE DESCRIPTION	C POTENTIAL	C ALLEGED

13	7	E (=
201	Same Ga	11
30	Laco 1	1

POTENTIAL HAZARDOUS WASTE SITE

L ICENT	TIFICATION
OI STATE	02 SITE NUMBER
NY	734017

	AT 3 - DESCRIPTION	ELIMINARY ASSESSMENT OF HAZARDOUS CONDITIONS AND	ואכוספא	TS NY	734017
HAZARDOUS CONDITIONS	AND INCIDENTS (Comme	441			
1 CI J. DAMAGE TO FLORA 4 NARRATIVE DESCRIPTION		02 C CSSERVED (DATE:	1	O POTENTIAL	O ALEGED
None observed	e ^{ic.}				
O K. DAMAGE TO FAUNA MARRATIVE DESCRIPTION (1990	diate Names of Species	02 () OBSERVED (DATE:	1	G POTENTIAL	O ALLEGED
Unknown					
C L CONTAMINATION OF FO	OD CHAIN	02 OBSERVED (DATE:)	D POTENTIAL	C ALLEGED
Unknown					
M. UNSTABLE CONTAINME	arico do-mail	02 CI OBSERVED (DATE:)	C POTENTIAL	G ALLEGED
None observed	FFECTED:	04 NARRATIVE DESCRIPTION			8
C N. DAMAGE TO OFFSITE PR	ROPERTY	02 OBSERVED (DATE:		O POTENTIAL	C ALLEGED
Unknown		28			
O O. CONTAMINATION OF SEV VARRATIVE DESCRIPTION	WERS, STORM DRAINS, W	WTP3 02 CBSERVED (DATE:)	O POTENTIAL	☐ ALLEGED
Unknown					
P. ILLEGAL/UNAUTHORIZED VARRATIVE DESCRIPTION	CUMPING	02 O OBSERVED (DATE:	1	O POTENTIAL	O ALLEGED
Unknown					
ESCRIPTION OF ANY OTHER I	KNOWN, POTENTIAL CR	ALLEGED HAZARDS			
Unknown	¥				
OTAL POPULATION POTENT	MALLY AFFECTED:				
OMMENTS					·
URCES OF INFORMATION	(C40 specific references, 6, g., seem	tod sonore analysis, received			
NYSDEC Files Oberdorfer Found					

SEPA

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

	I. IDENT	IFICATION	
Section Section		02 SITE NUMBER 734017	

		PARI 1-311	E LOCATION AN	ואאף	ECTION INFOR	MATION				
IL SITE NAME AND LO										
O1 SITE NAME (Logal comment				02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER						
Oberdorfer Fo	undries	s, Inc.			Γhompson R	oad				
03 CITY				C4 STAT	E 05 ZP CCOE	C6 COUNTY	107COUNTY GE			
Syracuse (DeWit	t)		10 TYPE OF OWNERS	NY	13201	Onondaga	CCCE	DIST		
4 3 04 22 . 076 05 29			A PRIVATE	O B. FE	DERAL	C. STATE C D. COU	TY DE MUNICIPAL			
OI DATE OF INSPECTION		2 SITE STATUS	03 YEARS OF OPERA	FIGU						
03,18,85	.	S ACTIVE		1922		t UNKNOW	MN .			
04 AGENCY PERFORMING IN	SPECTION I		I SEC	HANNG YE	AR ENDING YE	AR				
O A STATE OF STATE		Wehran"	Lngineering			MUNICIPAL CONTRACTOR	(Attitude of Comp)			
06 CHIEF INSPECTOR			OS TITLE	-	-	07 ORGANIZATION	08 TELEPHONE NO	٥.		
Mr. Kevin M. Bu	rger		Senior	Scien	tist	Wehran Engineering	(914) 343-0	660		
Ms. Linda M. Pal	llodino		10 TITLE	Ci		11 ORGANIZATION Tyehran	12 TELEPHONE NO			
MS. DINGS M. Pa.	nadino		Staff	Engine	er	Engineering	(914) 343-00	660		
							()			
							()			
							()			
	×	15			***************************************		()			
Mr. Robert Wolf	TERVIEWE	D	Plant Engir	2002/02/20	Thompson F	Road	16 TELEPHONE NO (315) 437-03			
							()			
							()			
							()			
							()			
		,					()			
	-									
17 ACCESS GAMED BY	18 TIME C	OF INSPECTION	19 WEATHER CONDI	TIONS						
© PERMISSION © WARRANT	1	0 p.m.	Clear, 40	°F						
IV. INFORMATION AVAIL	LABLE FF	MOR		4611 144-3-406						
Dennis G. Fenn			Wehrai		neering		03 TELEPHONE NO. (914) 343-066	60		
04 PERSON RESPONSIBLE FO	R SITE INSP	ECTION FORM	05 AGENCY	08 ORG	ANIZATION	TOT TELEPHONE NO.	OB DATE			
Linda M. Palladir	10			Weh		(914)343-0660	11,25,85			
PA FORM 2070-13 (7-81)	-					L RA	ACER0058012			



POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 2 - WASTE INFORMATION

L IDENTIFICATION
OF STATE OF STATE NUMBER
NY 734017

							-
IL WASTE ST	ATES, QUANTITIES, A	NO CHARACTERI	STICS				
OI PHYSICAL ST	INTES , CANCE IN IN HEAVY!	02 WASTE CUANT		03 WASTE CHURACTE	PISTICS ICHOR WINE		
XA SOUR	F. FWES E F LIQUID	- 100 pe	73,000	X A TOXIC	₹ E. SOLU	BLE CIHGHLY	
X 8. POWDER	F. FWES ŽF UQUIO II Q. GAS	TONS .	54.000	C C. RACIOA	SIVE I F. INFEC	MABLE C X. REACT	NE SV
3.5		CUERC YAROS _	54,000 cy	& O. PERSIST	TENT I H. XGNIT	ABLE II LINCOMI	PRIBLE
REHTO .0 S	15c+cry1	HO OF CRUMS				¥	
III. WASTET	YPE	4		A			
CATEGORY	SUBSTANCE	HAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS		
SLU	SLUDGE						
OLW	OILY WASTE		unknown,		100-150	gal/yr.	
SOL	SOLVENTS	***	unknown		now rec		
PSO	PESTIC:DES						
000	OTHER CRGANIC C	HEMICALS	unknown				
ЮС	INORGANIC CHEMIC	CALS					
ACD	ACIDS		-				
BAS	BASES						
MES	HEAVY METALS	scraps	unknown		now rec	cycled	
IV. HAZARDO	OUS SUBSTANCES (500 A		ry case CAS Mancores	A			
1 CATEGORY	02 SUBSTANCE		03 CAS NUMBER	04 STORAGE OUSP	OSAL METHOD	05 CONCENTRATION	CONCENTRATION
	Phenols						33 33
						 	
			·				
						 	-
						 	
							-
						 	
						 	
				<u> </u>		 	
V EFFOSTO	CXS (See According to CAS Marris			L			
CATEGORY	01 FEEDSTOO		02 CAS MUMBER	CATEGORY	Q1 FEEDSTO	OCX NAME	DZ CAS NUMBER
FDS				FDS			
FDS			-	FDS			
FDS				FOS			
FOS				FDS			
	OF INFORMATION (CA			ــــــــــــــــــــــــــــــــــــــ			
VI. SOURCES	OF INFORMATION	2000, 2000, 200.	and the sealed				
	EC Data on File						
	dorfer Foundries						
Site Ir	nspection, March	18, 1985 by	Wehran Engin	eering			•

SEPA

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

L IDENTIFICATION 01 STATE 02 STE 132 PER NY 734017

PART 3 - DESCRIPTION OF	HAZARDOUS CONDITIONS AND INCIDE	YTS L	101011
IL HAZARDOUS CONDITIONS AND INCIDENTS		Da. h.v., 112, 112, 112, 112, 112, 112, 112, 11	COLUMN COLUMN TO THE PARTY OF T
01 立ん GROUNGWATER CONTAMINATION UNKNOWN UNKNOWN	02 CI CRSERVED (DATE:) 04 NARRATIVE DESCRIPTION	क्षेत्र हें	C ALLSOED
Potential contamination of water supply miles from site.	y aquifers used by private residenc	es between 2 to	3
01 S. SUFFACE WAYER CONTAMINATION UNKNOWN 03 POPULATION POTENTIALLY AFFECTED:	02 C CASERVED (DATE:) 04 NARRATIVE DESCRIPTION	ANTHOR CK	CI ALLEGED
Potential contamination of Ley Creek-S	South Branch		
01 © C. CONTAMINATION OF AR 03 POPULATION POTENTIALLY AFFECTED:	02 C OSSERVED (DATE:) 04 HARRATIVE DESCRIPTION	C POTENTIAL	CEOSTIN. C
Unknown	9	•	
01 C D. FREIERLOSVE CONOTICNS 03 POPULATION POTENTIALLY AFFECTED:	02 (I COSSERVED (DATE:) 04 NARRATIVE CESCRIPTION	C POTENTIAL	C ALLEGED
Unknown			
01 C E CIRECT CONTACT 03 POPULATION POTENTIALLY AFFECTED:	02 C OSSERVED (DATE:) 04 NARRATIVE DESCRIPTION	CI POTENTIAL	C ALLEGED
Unknown			
01 A F. CONTAMBATION OF SOIL 03 AREA POTENTIALLY AFFECTED:	02 C CASERVED (DATE:) 04 NARRATIVE DESCRIPTION	3, POTENTIAL	C ALEGED
Leachate may contaminate soil.			
01 CT G. CRINKING WATER CONTAMBATION 03 POPULATION POTENTIALLY AFFECTED: UNKNOWN	02 C CBSERVED (DATE:) 04 NARRATIVE DESCRIPTION	XI POTENTIAL	C MTECED
Potential contamination of water supply site.		es between 2–3 i	miles from
01 C. H. WORKER EUPOSURE/HAURY 03 WOPKERS POTENTIALLY AFFECTED: Unknown	02 CASSERVED (DATE:) 04 NARRATIVE DESCRIPTION	C POTRATION D	C ALEGED
01 CT. POPULATION EXPOSURE THURY 03 POPULATION POTENTIALLY AFFECTED: Unknown	02 C CBSERVED (DATE:) 04 NARRATIVE DESCRIPTION	С РОТЕНТИЦ	I MIECED

2 DOA

POTENTIAL HAZARDOUS WASTE SITE

	TIFICATION
OI STATE	02 SITE HUMBER
NY	734017

Ad Last A	SITE ART 3 - DESCRIPTION	INSPECTION REPORT OF HAZARDOUS CONDITIONS AND	ואריחבאי	OI STATE C	2 SITE HUMBER 734017
HAZARDOUS CONDITIONS	S AND INCIDENTS ICOM	440)		10	
DI CI J. DAMAGE TO FLORA LA NUPPATIVE DESCRIPTION		02 C CESERVED (DATE:)	O POTENTLY	C ALLEGED
None observed	.*				
1 CI K. DAMAGE TO FAUNA 4 HARPATIVE DESCRIPTION IN	C-79 A75-1(1) of 174-044	02 () CBSERVED (DATE:)	O POTENTIAL	O ALLEGED
Unknown					
I C L CONTAMINATION OF FO	NIAHO DOC	02 OBSERVED (DATE:)	D POTENTIAL	O ALLEGED
Unknown					
M. UNSTABLE CONTAINM	ENT OF WASTES	02 O OBSERVED (DATE:)	C POTENTIAL	G ALLEGED
None observed	FFECTED:	04 NARRATIVE DESCRIPTION		State of the state	م مصدق
O N. DAMAGE TO OFFSITE P	ROPERTY	02 CORSEDIED CATE			
NARRATIVE DESCRIPTION		02 CI OBSERVED (DATE:)	D POTENTIAL	C ALLEGED
Unknown				s.	
O O. CONTAMINATION OF SE NARRATIVE DESCRIPTION	WERS, STORM DRAINS, W	MTPs 02 () OBSERVED (DATE:)	[] POTENTIAL	O ALLEGED
Unknown					
O P. ILLEGAL/UNAUTHORIZED	DOUMPING	02 OBSERVED (DATE:	1	C POTENTIAL	C) ALLEGED
Unknown		8			
SESCRIPTION OF ANY OTHER	KNOWN, POTENTIAL, OR	ALLEGED HAZARDS			
Unknown	e.				
OTAL POPULATION POTEN	TIALLY AFFECTED:				
OMMENTS		· · · · · · · · · · · · · · · · · · ·	<u> </u>		
					,
DURCES OF INFORMATION	ICEO spocific references, e.g., since	yed touch evalue upouth			
NYSDEC Files Oberdorfer Foun	dries, Inc.	Wehran Engineering			

79
-

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION

		TEICATION
01	STATE	OZ SITE NUMBER

RACER0058016

,, ,	PART	4-PERMI	T AND DE	SCRIP	TIVE INFORMAT	ION	1111104011
IL PERMIT INFORMATION							
01 TYPE OF PERMIT ISSUED	02 PERMIT	NUMBER	03 DATE	SSUED	04 EXPIRATION DATE	05 COMMENTS	
X A. NPOES	0003	026					
DB. UKC							
C. AIR	_	-	-				
O. RCRA			+				
C E. RCRA INTERIM STATUS			+				
G. STATE SOCOTY			-				
H. LOCAL			+				
CI. OTHER (Second)							
J. NONE							
IIL SITE DESCRIPTION						-1	
01 STORAGE/DISPOSAL (Crosse at trus temp)	02 AMOUNT	03 UNIT O	# MEASURE	04 TR	EATMENT (Cress of the or		06 OTHER
C A SURFACE IMPOUNDMENT _				OA.	INCENERATION		C A BUILDINGS ON SITE
C. DRUMS, ABOVE GROUND					UNDERGROUND INJE		C & SOLDANGS CA SITE
D. TANK, ABOVE GROUND					CHEMICALIPHYSICAL	-	
☐ E TANK, BELOW GROUND					BIOLOGICAL WASTE CIL PROCESS	SALCS.	OS AREA OF SITE
C F. LANOFILL					SOLVENT RECOVERY		
☐ G. LANDFARM	54.000			□ G.	OTHER RECYCLING/	RECOVERY	3.75 140001
M. OPEN DUMP	54,000	<u>· C</u>	<u>Y</u>	☐ H.	OTHER		
C L OTHER		-			1.00	-7"	
	e.						
IV. CONTAINMENT					, 		
OI CONTAINMENT OF WASTES (Creek and					·		
A ADEQUATE, SECURE	C B. MODE	ME	XI C. IN	ADEQU.	ATE, POOR	C D. INSECUE	E UNSCUND, DANGERCUS
12 DESCRIPTION OF DRUMS, DIKING, LINERS, B	100400 000						
to become it on or original brand breeze a	WORLD FICE						
		1620					
V. ACCESSIBILITY							
01 WASTE EASILY ACCESSIBLE: (3 YES	□ NO					() - (R. () - (S. () - () () () () () (
	oce of faci	lity only	, bordon	c non	th side of fill.		
161	ice of faci	arty Only	y border	5 1101	thi side of fill.		
IL SOURCES OF INFORMATION (C20 400	COTE ANDROSCOS, S. C.	4000 /Bbs, 2000	a arrayest, repair	rest			
NYSDEC Files							
Oberdorfer Foundries Inc.							
Site Inspection, March 18.	1985 By	Wehran	Enginee	ring			

		DATE	ENTIAL LATA	Phone u	ACTEC	74	LIDENTIF	ICATION	
POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DAT					15		2 SITE NUMBE	Я	
		PART 5 - WATER				ENTAL DATA	NY	734017	
L DRINKING WATER	SUPPLY								
1 TYPE OF DRINKING SUF	PFLY		02 STATUS				03 DESTA	WCE TO SITE	
	SURFACE	WELL	ENDANGER	EO AFFE	CTED	MONITORED			
COMMUNITY	A O	8. 0	A	1000000		C. 🗆	A.		a
ICH-COMMUNITY	c. 🔯	D. CX	0. 🗆	Ε.		F. C	B	(17	
L GROUNDWATER						******			
M SSU RETAWORDORD 1	VICINITY (Count o	Regi			-				
A ONLY SOURCE FO	OR DRINKING	S. DRINGONG	=	000	OMMERCIAL MODERNI DEL	NOUSTRIAL PRIGA	TION CID. NO	OT USED, UMU	SEABLE
		COMMERCIAL IN	OUSTRIAL PROGATIC						
		unknown							
2 POPULATION SERVED 8		51	•	03 DISTANC	E TO MEARES	T DRINKING WATER	WELL 2-3	(m	0
4 DEPTH TO GROUNDWAT	TER .	06 DIRECTION OF GRO	WOJE FETAWORD	OS DEPTH TO		OF ACUSTER	_D 08.90	LE SOURCE A	QUIFER
8		unkno	wn		(10)	unknowr	1	C YES	OM
9 DESCRIPTION OF WELLS	S (December) conseque.	Proof. and Incestod relatives to p					_(cpd)		
	3 (2000)	March, and Marchan relation to p	especializar and buildings)						
RECHARGE AREA	S (December emerge).	ecolo, and branches religion to p	ed billion	11 DISCHARGE	ME AREA				
RECHARGE AREA I YES COMMENTS	known	March, and Inscaling returns up p		11 DISCHARC		74 / Ja			
recharge area I yes Comments I no un		March, and Intention religion in p	cel being	☐ YES	ME AREA	s unknow			
RECHARGE AREA YES COMMENTS NO UN SURFACE WATER	known			☐ YES	ME AREA	74 / Ja			
PRECHARGE AREA YES COMMENTS NO UN SURFACE WATER SURFACE WATER USE (C)	known	•		□ YES □ NO	ME APPEA COMMENTS	unknow	n	,	
RECHARGE AREA I YES COMMENTS I NO UN . SURFACE WATER	known	☐ B. PRIGATION	I. ECONOMICALLY FRESOURCES	□ YES □ NO	ME APPEA COMMENTS	74 / Ja	n	CURRENTLY	USED
RECHARGE AREA YES COMMENTS UN SURFACE WATER SURFACE WATER USE (O CXA. RESERVOIR, REC ORINKING WATER	known CREATION R SOURCE	☐ B. PRIGATION	I. ECONOMICALLY	□ YES □ NO	ME APPEA COMMENTS	unknow	n	CURRENTLY	USED
RECHARGE AREA I YES COMMENTS I NO UN SURFACE WATER SURFACE WATER USE (OR RESERVOIR, RECORDING WATER AFFECTED/POTENTIALLY	known CREATION R SOURCE	☐ B. PRIGATION	I. ECONOMICALLY	□ YES □ NO	ME APPEA COMMENTS	unknow	n 🗆 0. NOT		a
RECHARGE AREA I YES COMMENTS I NO UIT SURFACE WATER SURFACE WATER USE OF CXA. RESERVOIR, RECORNING WATER AFFECTED/POTENTIALLY NAME:	IKNOWN CREATION R SOURCE	☐ B. PRIGATION SMPORTANT	I. ECONOMICALLY	□ YES □ NO	ME APPEA COMMENTS	unknow	n 🗆 0. NOT	WCE TO SIT	a
RECHARGE AREA I YES COMMENTS I NO UIT SURFACE WATER SURFACE WATER USE (O CXA. RESERVOIR, REC ORINKING WATER AFFECTED/POTENTIALLY NAME:	known CREATION R SOURCE	☐ B. PRIGATION SMPORTANT	I. ECONOMICALLY	□ YES □ NO	ME APPEA COMMENTS	unknow	n 🗆 0. NOT		
RECHARGE AREA I YES COMMENTS I NO UIT SURFACE WATER SURFACE WATER USE OF CXA. RESERVOIR, RECORNING WATER AFFECTED/POTENTIALLY NAME:	IKNOWN CREATION R SOURCE	☐ B. PRIGATION SMPORTANT	I. ECONOMICALLY	□ YES □ NO	ME APPEA COMMENTS	unknow	n 🗆 0. NOT	WCE TO SIT	E (m)
RECHARGE AREA I YES COMMENTS I NO UIT SURFACE WATER SURFACE WATER USE (O CXA. RESERVOIR, REC ORINKING WATER AFFECTED/POTENTIALLY NAME:	IKNOWN CREATION R SOURCE	☐ B. PRIGATION SMPORTANT	I. ECONOMICALLY	□ YES □ NO	ME APPEA COMMENTS	unknow	n 🗆 0. NOT	WCE TO SIT	(ms)
CXA RESERVOIR, RECORNING WATER CAFFECTED/POTENTIALLY NAME: Ley Cree	CREATION R SOURCE	B. PRIGATION MPORTANT	I. ECONOMICALLY	□ YES □ NO	ME APPEA COMMENTS	unknow	n 🗆 0. NOT	WCE TO SIT	(ms)
CXA. RESERVOIR, RECORDINATED WATER AFFECTED/POTENTIALLY NAME: Ley Cree DEMOGRAPHIC AND	CREATION R SOURCE	B. PRIGATION MPORTANT	I. ECONOMICALLY	☐ YES	ME AREA COMMENTS OMMERCIAI	unknow	DISTA	UNICE TO SIT	(ms)
CXA RESERVOIR, RECORNING WATER SURFACE WATER USE OF CRINKING WATER AFFECTEDIPOTENTIALLY NAME: Ley Cree DEMOGRAPHIC AND TOTAL POPULATION WITH	CREATION R SOURCE AFFECTED BOOK BY AFFECTED BOOK PROPERTY	B. PRIGATION MPORTANT	I. ECONOMICALLY FRESOURCES	☐ YES	E AREA COMMENTS OMMERCIAI	unknow ROUSTRIAL AFFECTED G	DISTA	UNICE TO SIT	a
SURFACE WATER SURFACE WATER USE OF CXA. RESERVOIR, RECORNING WATER AFFECTED/POTENTIALLY NAME:	CREATION R SOURCE AFFECTED BOOK BY AFFECTED BOOK PROPERTY	B. PRIGATION MPORTANT MES OF WATER Branch INFORMATION	I. ECONOMICALLY PRESOURCES THREE (3	□ YES □ NO	E AREA COMMENTS OMMERCIAI	AFFECTED G G G STANCE TO NEARES	DISTA	UNICE TO SIT	(mi)

04 DISTANCE TO NEAREST OFF-SITE BUILDING

50 feet

Town of DeWitt

0	7	7.0
1	}	
20	1	

EPA FORM 2070-13 (7-81)

POTENTIAL HAZARDOUS WASTE SITE

1.108	NTIFICATION
01 ST	YY 734017

RACER0058018

SEPA	PART S	SITE INSPER S-WATER, DEMOGRAPI	CTION REPORT		01 5	NY 734017	
YL ENVIRONMENTAL INFORM	ATION .			· · · · · · · · · · · · · · · · · · ·			
01 PERMEABILITY OF UNSATURATED	ZONE (Chace and						
□ A 10-4 - 10	50 mm 50 mm	I B. 10 ⁻⁴ − 10 ⁻⁴ cm/sec (□ C. 10 ⁻⁴ – 10 ⁻³ cm	/sec 🖾 D. G	1 MAHT RETABLE	10−3 cm/sec	
02 PERMEABILITY OF BEDROCK (Cheek							
	WEABLE (B. RELATIVELY IMPERMEAS	BLE C. RELATIVEL	Y PERMEABLE		PERMEABLE	
03 DEPTH TO BEDROCK	C4 DEPTH OF	CONTAMINATED SOIL ZONE	06 SOIL OH		T		
unknown (m		unknown m	unk	nown			
9.5	07 ONE YEAR	24 HOUR RAINFALL	SITE SLOPE	DIRECTION OF	SITE SI OSE	**************************************	
(in)	<u> </u>	2.25 (In)	<u>6</u> _%	northea		TERRAIN AVERAGE S	%
SITE IS IN YEAR FLO	ODPLAIN		ER ISLANO, COASTAL	HIGH HAZARI	AREA, RIVERII	NE FLOODWAY	
11 DISTANCE TO WETLANDS IS AND ASSESSED			12 DISTANCE TO CRITIC	AL MARGATAT			
ESTUARINE		OTHER				(mi)	
A(mi)	8	2.5	ENDANGERED	enemen.	none	,	
13 LAND USE IN VICINITY			Z CONTROL PER	3-ECIE3:			
DISTANCE TO: COMMERCIAL/INDUSTRI	AL	RESIDENTIAL AREAS: NATION FORESTS, OR WILDLIF	NAL/STATE PARKS. E RESERVES	PRIME	AGRICULTUR AG LAND	AL LANOS AG LANO	
A adjacent (mil)		s. <u>1.0</u>	(mi)	c	(mi)	O(m	ni)
14 CESCRIPTION OF SITE IN RELATION T							
The site is located in the site is gently slop All site drainage flow	ped with s	ome steep surfaces	. The land is a	reclaimed	n of DeWi swamp la	tt. Most of nd.	
II. SOURCES OF INFORMATION	/Cite appeals return	Stot. a.d., pimo ribes session and an	-				
Site Inspection, Marc NYSDEC Files Oberdorfer Foundries	h 18, 198		ering				

500,000	
-	
	1 1 11
3/ 2	3 4
	diaments of the

EPA FORM 2070-13 (7-81)

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 6 - SAMPLE AND FIELD INFORMATION

L IDENTIFICATION				
O1 STATE	02 SITE NUMBER			
NY	734017			

RACER0058019

42 111 3		P	ART 8 - SAMPLE AND FI	ELD INFORMATION	
IL SAMPLES TAKE	No.	ne			
SAMPLE TYPE		01 MUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO		OJ ESTIMATED CATE RESULTS AVALABLE
GROUNDWATER					
SURFACE WATER	1				
WASTE					
AIR					
RUNOFF					
SPILL					
SOL					
VEGETATION					
OTHER					
IIL FIELD MEASUR	EMENTS TAI	KEN None			
OI TYPE		02 COMMENTS			
IV. PHOTOGRAPH	S AND MAPS	3			
01 TYPE GROUN			02 N CUSTODY OF	(Pierro di organizzon di Individual)	
CS YES CD NO	04 LOCATION		yracuse Quadrangle		
Y. OTHER FIELD D	ATA COLLEC	CTED (managed)			
					•
None					
		,			
VI. SOURCES OF I	NFORMATIO	N (CIO spocific reservoires).	e.g., state (Bos. samon averyon, reporte)		
Site Ir	nspection			100	
					*
(

0	7-7	RF
8		

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 7 OWNER INFORMATION

I. IDENTIFICATION

01 STATE | 02 SITE NUMBER

NY | 734017

	PART 7 - OW	NER INFORMATION	NY	734017
			DON	
	02 D+8 NUMBER	OS NAME		R38MUN 6 + 0 60
	04 SIC CODE	10 STREET ADORESS IP O. Box. RFO) 0, esc.)	11 SIC CCO€
		12 CITY	13 STATE	14 ZIP CCC€
	02 D+8 MUMBER	OS NAME		F38MUM 8+0 60
	04 SEC CODE	10 STREET ACCRESS (P.O. Des. APO	0, 002.3	11 SIC COOE
OS STATE	07 ZP CCOE	12 CTY	13 STATE	14 ZP COOE
	02 D+8 NUMBER	GB RAME		REBINDIN 8+0 80
	04 SIC CODE	10 STREET ADDRESS (P.O. Best, RPD)	d. ess.)	115€ C00€
OG STATE	07 ZP CODE	12 017	13 STATE	4 ZP CODE
-	02 D+6 NUMBER	OS NAME		738MUM 8+0 80
	04 SIC CODE	10 STREET ADDRESS IP.O. Box. AFD	o. ee.j	11 SIC CODE
OS STATE	07 ZP COOE	12 CITY	13 STATE	14 ZP COOE
		IV. REALTY OWNERS		
THE RESERVE TO SHARE THE PARTY OF	02 0+6 NUMBER	O1 NAME		20+6 NUMBER
	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFO	·	04 SEC CCOE
OSTATE (07 ZIP CODE	05 CITY	OSTATE D	17 ZIP CCC€
	02 0+8 NUMBER	01 NAME		2 0+6 NUMBER
	04 SEC CCCE	03 STREET ADDRESS (P.O. DEL APO	7. 000.1	04 SIC CCC€
06 STATE 0	7 2P COOE	os city	06 STATE O	7 ZP CCC€
- 0	DZ D+8 NUMBER	O1 NAME		20-8 MUMBER
	04 SIC COO€	03 STREET ADDRESS (P.O. Box. RFO).	.=.	04 SPC CCD€
		05 CTY	JOS STATEJO	1
	OG STATE	04 SIC CODE 05 SITATE 07 ZIP CODE 04 SIC CODE 05 SITATE 07 ZIP CODE 04 SIC CODE 05 SITATE 07 ZIP CODE 05 SITATE 05 SITATE 07 ZIP CODE 05 SITATE	04 SIC COOE	DATE OF STATE OF DEP CODE 12 CITY 13 STATE OF STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 12 CITY 13 STATE OF DEP CODE 13 STREET ADDRESS (P. O. BOL. PEO F. SEL.) OF STATE OF DEP CODE OF STATE OF DE

SEPA				ARDOUS WASTE SITE		FICATION D2 SITE NUMBER 734017
PART 8 - OPERA		ATOR INFORMATION	NY	734017		
L CURRENT OPERA	TOR (Proces of Global)	rem comer)		OPERATOR'S PARENT COMPA	MY	
Oberdor	fer Foundries	Inc.	RESMUM 8+0 SO	10 NAME	(14) (N modernos)	11 0+8 NUMBER
STREET ACCRESS IP.O.	Box. RFO 0, sec. 1		104 SIC CODE	12 STREET ADDRESS (P.O. BOL AFO F. CO.		
Thompso				12 STALL ACCASS (P.O. SEE POP, SEE		13 SIC CODE
Syracuse	3	06 STAT	E 07 ZP COO€ 1 13201	14 CITY	16 STATE	16 ZIP CODE
YEARS OF OPERATION	09 HAME OF OWNER		. 10201			
		•				
PREVIOUS OPERA	TOR(S)	fret, provesto e	only d different from owners	PREVIOUS OPERATORS' PARE	NT COMPANIES	
NAME			02 D+8 NUMBER	10 NAME		11 D+6 NUMBER
STREET ACCRESS IP.O.	Sec. 850 d. cos.)		04 SIC COOE	12 STREET ADDRESS (P.O. dog, PSD 6, and		13 SIC COO€
						100000
aty		OG STATE	07 ZP COOS	14 017	16 STATE	16 ZIP CODE
YEARS OF OPERATION	09 NAME OF OWNER	OURSNG TH	NS PERICO			
NAME			REMUMB #+0 SO	10 NAME .		RESMUN 6+0 11
STREET ADDRESS IP. Q. &	=. #0 0, heal .		04 SEC CCDE	12 STREET ADDRESS IP Q. Box, AFD 0, com.)		13 SIC COD€
CITY		OS STATE	07 ZP CCOE	14 CTY	15 STATE	16 ZIP CODE
TEARS OF OPERATION	08 MAME OF OWNER	DURING TH	IS PERIOD /			
MALE			02 D+6 NUMBER	10 NAME		11 0+6 NUMBER
STREET ADORESS IP.O. D	a. APO 0, sea.)		04 SIC CODE	12 STREET ADDRESS (P.O. am. AFO F. am.)		13 SIC CODE
ary .		OS STATE	07 ZIP CODE	14 GTY	lat et et e	16 ZIP CODE
			540 g		ISSIAIE	16 ZIP CODE
EARS OF OPERATION	09 NAME OF OWNER	DUPING THE	S PERICO			
SOURCES OF INCO						
SCURCES OF INFO	MAII NOI I AMA	references, (. C., 2000 Bloc, 2000(00) 000(100)	L reported		
				9		
				/*:		

EPA FORM 2070-13 (7-81)

RACER0058021

SEPA		POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 9 - GENERATOR/TRANSPORTER INFORMATION			FICATION 2 SITE NUMBER 734017
IL ON-SITE GENERATOR					
01 NAME		02 0+8 NUMBER			
03 STREET ADDRESS (P.O. Back APO F.		04 SIC CODE	\dashv		
05 CTY	06 STATE	07 ZIP CCOE	-		
IIL OFF-SITE GENERATOR(S)					
01 NAME		02 0+6 NUMBER	O1 NAME		R38MUM 8+0 20
03 STREET ADDRESS (P.O. See, RFD 4. c		04 SEC COOE	03 STREET ADDRESS (P.O. Box, MO P. con.)		04 S€C CCD€
06 QTY	OG STATE	07 ZP CCOE	05 CTY	06 STATE	07 ZIP COOE
O1 NAME		02 D+8 NUMBER	O1 NAME		102 D+8 NUMBER
03 STREET ADDRESS IP. O. Box, APD P. on	el .	04 SIC CODE	03 STREET ADDRESS IP.O. Sec. AFD 6, con.)		04 SIC CC0€
05 CTY	OG STATE	OT ZIP CODE	05 CITY	06 STATE	07 ZIP COC€
IV. TRANSPORTER(S)					
O1 NAME		02 0+8 NUMBER	01 NAME		02 D+8 NUMBER
33 STREET ADORESS (P.O. DEL APO P. CO.	eJ .	04'SIC COD€	C3 STREET ADDRESS (P. C. Box, AFO P. cot.)		04 SEC CODE
DS CITY	06 STATE	07 ZP CODE	05 GTY	OS STATE	07 ZP CCOE
DI NAME		2 D+6 NUMBER	01 NAME		02 D+8 NUMBER
3 STREET ADDRESS (P.O. See, APO P. CO.	<u>.</u>	04 SIC COOE	03 STREET ADDRESS (P.O. aux. AFO 0. ac.)		04 SIC CODE
06 CTY	OG STATE O	07 ZP COO€	06 CITY	OS STATE	07 ZIP CCCE€

V. SOURCES OF INFORMATION (CO accorde reference, e.g., sales fine, somew energies, record

	7-7	AF
3	7	-27
20		A a

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 10-PAST RESPONSE ACTIVITIES

L	DENT	TIP!	CA	пон	
01	STATE	G2 7	341	17	E

01 C A. WATER SUPPLY CLOSED	02.0475	02 records
01 LI A. WATER SUPPLY CLOSED 04 DESCRIPTION	UZ UATE	03 AGENCY
01 C B. TEMPORARY WATER SUPPLY PROVIDED OA DESCRIPTION	02 DATE	CS AGENCY
01 C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE	03 AGENCY
01 C O. SPILLED MATERIAL REMOVED 04 DESCRIPTION	02 DATE	O3 AGENCY
01 C E. CONTAMINATED SCIL REMOVED 04 DESCRIPTION	02 DATE	03 AGENCY
01 [] F. WASTE REPACKAGED 04 DESCRIPTION	02 DATE	O3 AGENCY
01 C G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION	02 DATE	03 AGENCY
01 G H. ON SITE BURIAL 04 DESCRIPTION	02 DATE	03 AGENCY
D1 C I. IN SITU CHEMICAL TREATMENT D4 DESCRIPTION	02 DATE	03 AGENCY
01 G J. IN SITU BIOLOGICAL TREATMENT DA DESCRIPTION	02 DATE	O3 AGENCY
01 C K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION	02 DATE	O3 AGENCY
D1 CI L ENCAPSULATION D4 DESCRIPTION	02 DATE	OS AGENCY
DI C M. EMERGENCY WASTE TREATMENT DA DESCRIPTION	02 DATE	O3 AGENCY
01 C N. CUTOFF WALLS 04 DESCRIPTION	02 DATE	O3 AGENCY
01 G O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION	02 DATE	O3 AGENCY
01 G P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION	02 DATE	OS AGENCY
01 II Q. SUESURFACE CUTOFF WALL 34 DESCRIPTION	02 DATE	O3 AGENCY

- P A
-

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 10 - PAST RESPONSE ACTIVITIES

L IDENTIFICATION				
OI STATE	02 SITE NUMBER			
NY	734017			

	PART 10 - PAST RESPONSE ACTIVITIE	NY 734017
AST RESPONSE ACTIVITIES		
01 C R. BARRIER WALLS CONSTRUCTED 04 DESCRIPTION	02 DATE	OS AGENCY
01 S. CAPPING/COVERING 04 DESCRIPTION	02 DATE	OS AGENCY
01 G T. BULK TANKAGE REPAIRED 04 DESCRIPTION	02 DATE	03 AGENCY
01 🗆 U. GROUT CURTAIN CONSTRUCTED 04 DESCRIPTION	02 OATE	03 AGENCY
01 C V. BOTTOM SEALED 04 DESCRIPTION	02 DATE	03 AGENCY
01 D W. GAS CONTROL 04 DESCRIPTION	02 DATE	Q3 AGENCY
01 C X. FIRE CONTROL 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ Y. LEACHATE TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 C Z AREA EVACUATED 04 DESCRIPTION		03 AGENCY
01 C 1. ACCESS TO SITE RESTRICTED 04 DESCRIPTION	02 DATE	03 AGENCY
01 [] 2. POPULATION RELOCATED 04 DESCRIPTION	02 DATE	03 AGENCY
01 C 3. OTHER REMEDIAL ACTIVITIES 04 DESCRIPTION	02 DATE	03 AGENCY

III. SOURCES OF INFORMATION : Che months response a.g., 11000 flor, author anayor, resorted

NYSDEC Files



POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 11 - ENFORCEMENT INFORMATION

L IDENTIFICATION				
	01	NY	02 SITE NUMBER 734017	

19	FNEORCEMENT	1215	~ D a .	2 4	7704

OI PAST REGULATORY/ENFORCEMENT ACTION () YES (E) NO

02 DESCRIPTION OF FEDERAL STATE, LOCAL REGULATORY/BYFORCEMENT ACTION

IIL SOURCES OF INFORMATION (CTO MOVING FORWARDS, 4.4., 2022 NOS. 107000 OPENIOR, FEDORAL

NYSDEC Files Orberdorfer Foundries, Inc.

6.0 ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS

6.0 ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS

6.1 GROUNDWATER ROUTE

The preliminary groundwater route score was based on the assumption that the site overlies an aquifer consisting of unconsolidated sands and gravels and an aquifer denoted as the Middle Shale unit. Each of these aquifers may supply a few private wells, as noted in a report entitled "Ground-Water Resources in the Eastern Oswego River Basin, New York," 1970. This assumption produced a preliminary score of 20.41 for the groundwater route (S_{gw}). The availability of hydrogeologic data is limited and additional information is needed to accurately assess the groundwater route and its potential associated hazard. A Phase II hydrogeologic investigation should be designed to achieve the following objectives:

- Determine hydraulic gradients between the overburden zone of saturation.
- Determine the hydraulic properties of the overburden and bedrock aquifer constituents (permeability, saturated thickness, etc.)
- Determine direction and occurrence of groundwater flow within the immediate area.
- Determine groundwater quality both upgradient and downgradient of the site.

6.2 SURFACE WATER ROUTE

The preliminary surface water route (S_{SW}) of 6.15 indicates a low potential hazard from surface release. Since the site is located within 1,000 feet of the South Branch of Ley Creek and no background information is available, Phase II investigations on surface water should be initiated.

Phase II objectives are as follows:

- Determine if there is surface leaching to river or groundwater supplies.
- Examine current and potential uses of the South Branch of Ley Creek and limitations posed by threat of contamination.

6.3 AIR ROUTE

The preliminary score for the air route (S_a) is 0. The Phase II work plan will include monitoring to determine the range and concentrations of volatile organics present at the site.

6.4 FIRE AND EXPLOSION

To score the fire and explosion hazard mode either a state or local fire marshall must have certified that the facility presents a significant fire or explosion threat to the public or to a sensitive environment, or there must be a demonstrated threat based on field observations (e.g. combustible gas indicator readings). The available records give no indication that either one of these tasks has been done. Further, the available data do not suggest any imminent threat of fire and explosion at this site. Therefore the route score cannot be completed.

6.5 DIRECT CONTACT

The preliminary direct contact route score is 0. This score is based on the fact that access is restricted by fencing and facility security.

7.0 PHASE II WORK PLAN

7.0 PHASE II WORK PLAN

INTRODUCTION AND OBJECTIVES

During the Phase I investigation, it was determined that the Oberdorfer Foundries site poses a potential threat to the groundwater, which is used as a drinking water source. This Phase II work plan is designed to further characterize the site as follows:

- . Identify the types and concentrations of allegedly disposed materials
- . Further identify subsurface hydrogeologic conditions at the site
- Determine the presence or absence of contamination in the groundwater and surface water in the vicinity of the site
- Evaluate whether or not contamination from the site poses any environmental or health concerns
- . Provide a Preliminary Hazard Ranking System (HRS) score
- . Provide NYSDEC with a preliminary remedial cost estimate.

Procedures to be utilized for sampling and analysis, as well as health and safety, will be conducted in conformance with the consultant's generic procedures submitted to NYSDEC prior to initiation of work under this contract.

WORK PLAN

To accomplish the above-mentioned objectives, the following tasks and subtasks are recommended:

Task 1 - Preparation of Site-Specific Work Plans

Wehran will prepare and submit for NYSDEC approval revised work plans for those sites NYSDEC recommends for Phase II investigation. These plans will include site-specific:

- . Scope of work
- . Health and safety plan
- Sampling and analytical plan
- . Detailed cost estimate

All plans will conform with the contractor's previously submitted established procedures.

Task 2 - Identify, Obtain and Evaluate Additional Data

To consider the possible cost for future remedial investigations, it will be necessary to collect and evaluate additional information relating to the area surrounding the Oberdorfer Foundries site including but not limited to:

- . Uses of local surface water bodies in the area
- . Available regional water supply sources
- . Boring logs, if available, for all wells in the immediate area
- Hazardous materials dumped at the site

Task 3 - Hydrogeologic Investigation

Data Evaluation

The information obtained in Task 2 will be used to aid in the location of test borings and monitoring wells. There are three monitoring wells located within the waste on site. These wells must be evaluated in terms of their adequacy for use in the Phase II investigation. If the construction of these wells was in accordance with USEPA's guidance for the installation of monitoring wells, and they meet NYSDEC approval, then these three wells may be used in the Phase II investigation. It is proposed that five monitoring wells are needed to complete this investigation. In order to determine background data, water quality and contamination levels, three wells will be installed in the unconsolidated overburden and two wells will be installed in the bedrock. This cost estimate and work plan is based on the installation of five new wells. However, if the existing three wells are deemed adequate,

then only three wells will be installed (two completed in bedrock and one completed in the overburden).

Test Borings

In order to define the hydrogeology beneath the subject site, three shallow borings (overburden wells) to approximately 40 feet and two deep borings (bedrock wells) to approximately 70 feet will be drilled under the continuous observation of Wehran Engineering. Split-spoon samples will be collected at standard five-foot intervals in accordance with the procedures of the Standard Penetration Test. Soils will be visually classified in the field for grain size (according to the Unified Classification System) and lithology. Representative portions of each sample will be stored in moisture-tight jars at the office of Wehran Engineering in Middletown, New York, for future reference. In addition, it is anticipated that three samples will be analyzed in the laboratory for grain size, Atterberg limits, and hydrometer.

If a confining layer or other strata determined to be of particular significance to the migration of contamination is encountered, additional investigations will be conducted. These additional investigations will be performed as an extra, subject to NYSDEC approval, and may include the collection of undisturbed soil samples using Shelby tubes, continuous split-spoon sampling, and laboratory permeability testing.

Monitoring Well Installation

Monitoring wells will be installed in each of the five borings. All wells will be constructed using two-inch diameter, Schedule 40, threaded flush-joint PVC pipe and fifteen-foot long factory slotted PVC screens. The screened interval will be determined in the field according to the hydrologic conditions encountered. A sand pack will be placed around each screen to prohibit clogging of the screen openings. A bentonite pellet seal will be placed at the top of the sand to isolate it from upper soil zones. The annular space will be filled to the surface with a bentonite-cement grout using the "Tremie" method. A steel casing with a protective lock will then be cemented in place to prevent vandalism.

Survey Well Locations and Elevation

A survey will be conducted to determine the relative elevations of both ground surface and "top of casing" at each boring location. The location of each well will also be determined with sufficient accuracy for plotting on a site map.

In Situ Permeability Determinations

A variable head borehole test will be conducted in order to measure the in situ permeability of the soils at each monitoring well location. This test will involve recording the recovery of water level after bailing. Prior to the procedure, the static water level will be measured and recorded to facilitate a determination of groundwater flow direction.

Groundwater Sample Collection

Groundwater samples will be collected for analysis from each of the eight wells (three existing and five proposed wells) using the following procedure.

- . The static water level in each well will be measured and recorded.
- Each well will be purged of at least three well volumes of water using a separate teflon bailer for each well. Each bailer will be cleaned in the laboratory prior to use.
- Samples will be collected from each well by the use of the abovementioned bailer. Each sample will then be placed in the appropriate container, stored on ice, and transported to the lab in accordance with standard chain-of-custody protocol.

The samples will be analyzed for the Hazardous Substances List (HSL), Priority Pollutant Heavy Metals and water quality indicator parameters including: COD, pH, conductivity, chlorides, TSS, TDS, and iron. Samples will also be collected from three private wells in the vicinity of the site by the NYSDOH.

The following assumptions have been made in the development of this scope of services and the associated costs:

- All drilling locations are accessible to a truck-mounted drilling rig as determined by the drilling subcontractor
- . The soils do not contain excessive amounts of cobbles or boulders
- . It is anticipated that three wells will be approximately 40 feet deep, two wells will be 70 feet deep, and that ten normal, eighthour days would be required for their installation.

Geophysical Survey

A terrain conductivity or earth resistivity survey will be conducted in order to obtain additional subsurface information. Both of these geophysical methods evaluate changes in the earth's resistance/conductance to an induced electrical current which may reflect changes in stratigraphy and/or groundwater quality. The survey would be implemented in areas of the site deemed appropriate based on existing geologic and water quality data.

Task 4 - Surface Water Investigation

Drainage from the Oberdorfer Foundries site flows towards the South Branch of Ley Creek. Two surface water and two sediment samples should be collected from the South Branch of Ley Creek: one sample upstream of the site and one downstream of the site.

Laboratory analyses of these surface water and sediment samples will be for the HSL, Priority Pollutant Heavy Metals and water quality indicator parameters (water samples only), as indicated in Task 2.

Task 5 - Waste Characteristics Investigation

It is recommended that three samples of the disposed waste be analyzed. One sample should be a composite sample from the waste piles. The other two samples should be from borings within the waste. One composite sample should be taken from the active site and one composite sample from the inactive site. It is recommended that these samples be collected from continuous split-spoon samplings and that a composite sample from each boring be collected. Depth of the sampling will be based on the depth to water table and on the installation of the monitoring wells. The

sampling should be limited to at least five feet above the water table. The waste samples will be analyzed for the HSL and Priority Pollutant Heavy Metals.

Task 6 - Qualitative Air Monitoring

Throughout all Phase II activities conducted at the site, air monitoring will be performed using the HNU Systems Photoionizer, both upwind and downwind of the site. If consistent, unusually high values are observed (five to ten ppm above background) with the HNU, a more quantitative air analysis would be recommended as an extra, subject to NYSDEC approval.

Task 7 - Laboratory Analysis

During the field investigation the following samples will be collected for analysis by a subcontractor laboratory:

- Twelve water samples (eight wells, two surface water, one field blank, one trip blank) for HSL, Priority Pollutant Heavy Metals and water quality indicator parameters
- . Two sediment samples for HSL and Priority Pollutant Heavy Metals
- . Three soil samples for HSL and Priority Pollutant Heavy Metals.

Task 8 - Preliminary Remedial Cost Estimate

The consultant will consider the possible cost for future remedial investigations, engineering plans and specifications, and the physical remediation anticipated for the site. A range of possible remedial costs will be developed using best engineering judgment and previous experience with possible feasible remedial schemes. This task is not intended to perform a cost-effectiveness analysis of feasible remedial alternatives but rather to provide a cost range estimate adequate for budget reporting purposes.

Task 9 - Phase II Report Preparation

Under this task, the engineer will compile a final report for the site. This report will contain the following:

- . Phase II information developed under Tasks 1 through 7
- . Final Site Assessment
- . Final HRS score

Extras

This work plan has been developed based upon available site information as contained in the Phase I report. If conditions encountered during the Phase II investigation indicate the need for additional services or extras such as difficult drilling, poor access, etc., not included within the original scope of work, the costs will be negotiated with the NYSDEC. Such extra services will be performed on a time and materials basis with prior authorization by the NYSDEC project officer.

NYSDEC SUPERFUND INVESTIGATIONS PHASE II - TOTAL PROJECT COST SUMMARY¹ SITE: OBERDORFER FOUNDRIES, INC.

Wehran's Labor and Expenses \$ 53,000.00 Subcontractors: Driller 49,000.00 Laboratory 34,000.00 TOTAL ESTIMATED COST

¹This cost estimate does not include any provisions for inflation and salary adjustments and can be considered current for approximately three months.

\$ 136,000.00*

^{*}Note: This cost estimate has been developed for budgeting purposes only. Should this site be selected for Phase II investigation, Wehran will develop a detailed cost estimate for NYSDEC approval.

APPENDIX



Calocerinos & Spina Consulting Engineers

ENVIRONMENTAL LABORATORY

1020 Seventh North Street, Liverpool, NY 18086 (315) 457-6711

To:

Oberdorfer Foundries, Inc.

Thompson Road

Post Office Box 4811 Syracuse, New York 13221

Attention: Robert Wolf

Attention:

Date: February 16, 1981

File No. 405.097

Sample No. 282

ANALYSIS REPORT

Source Oberdorfer Foundries

Date Collected 2/9/81

Date Received · 2/9/81

Location B-1, S-4, 20.0'-21.5'. Time Collected N/A

Sample Type Grab

RCRA Extraction Procedure as given in the Federal Register May 19, 1980.

RCRA Extraction Procedure a	Maximum Extract Level	Analyzed Level
Parameter Arsenic Barium Cadmium Chromium - Hexavalent Chromium - Total Lead Mercury Selenium Silver *Ignitability *Corrosivity	Maximum Extract Level 5.0 mg/l 100.0 mg/l 1.0 mg/l 5.0 mg/l 5.0 mg/l 6.0 mg/l 1.0 mg/l 1.0 mg/l 1.0 mg/l	Analyzed Level <0.002 mg/l <1. mg/l <0.01 mg/l <0.004 mg/l <0.01 mg/l <0.02 mg/l <0.002 mg/l <0.002 mg/l <0.001 mg/l <0.002 mg/l <0.001 mg/l <0.001 mg/l
*Reactivity	N/A	

^{*}The classification of these materials as being either Ignitable, Corrosive, or React is based upon visual inspection and other background information.

All analyses were conducted using EPA "Methods for Chemical Analysis of Water and Wastes (1979)" or "Standard Methods (14th Edition)." .



d Calocerinos & Spina CONSULTING ENGINEERS

ENVIRONMENTAL LABORATORY

020 Seventh North Street, Liverpool, NY 13056 • (315) 457-6711

To:

Oberdorfer Foundries, Inc.

Thompson Road

Post Office Box 4811

Syracuse, New York 13221

Attention: Robert Wolf

Date: February 16, 1981

File No. 405.097

Attention:

Sample No. 286

ANALYSIS REPORT	A	N	A	L	Y	S	15	R	E	D	0	R.T
-----------------	---	---	---	---	---	---	----	---	---	---	---	-----

2/9/81 Source Oberdorfer Foundries Date Collected

Date Received

2/9/81

Location B-2, S-4, 20.0'-21.5' Time Collected

Sample Type

Grab

RCRA Extraction Procedure as given in the Federal Register May 19, 1980.

Parameter	Maximum Extract Level	Analyzed Level
Arsenic	5.0 mg/1	<0.002 mg/l
Barium	100.0 mg/l	<1. mg/l
Cadmium	1.0 mg/l	<0.01 mg/l
Chromium - Hexavalent	5.0 mg/l	<0.004 mg/l
Chromium - Total	5.0 mg/l	<0.01 mg/1
Lead	. 5.0 mg/ī	<0.02 mg/1
Mercury	0.2 mg/l	<0.002 mg/1
Selenium	1.0 mg/l	<0.002 mg/l
Silver	5.0 mg/1	<0.01 mg/l
*Ignitability	N/A	
*Corrosivity	N/A	
*Reactivity	N/A	

^{*}The classification of these materials as being either Ignitable, Corrosive, or Reactiv is based upon visual inspection and other background information.

All analyses were conducted using EPA "Methods for Chemical Analysis of Water" and Wastes (1979)" or "Standard Methods (14th Edition)."



Calocerinos & Spina Consulting Engineers

ENVIRONMENTAL LABORATORY

1020 Seventh North Street, Liverbool, NY 13055 (315) 457-6711

To:

Oberdorfer Foundries, Inc.

Thompson Road

Post Office Box 4811

Syracuse, New York 13221

Attention: Robert Wolf

Attention:

Date: February 16, 1981

File No. 405.097

Sample No. 289

ANALYSIS REPORT

Scurce Oberdorfer Foundries Date Collected 2/9/81 Date Received 2/9/81

Location B-3, S-3, 15.0'-16.5' Time Collected N/A Sample Type Grab

RCRA Extraction Procedure as given in the Federal Register May 19, 1980.

Parameter	Maximum Extract Level	Analyzed Level
Arsenic	5.0 mg/l	<0.002 mg/1
Barium	100.0 mg/l	<1. mg/l
Cadmium	1.0 mg/l	<0.01 mg/l
Chromium - Hexavalent	5.0 mg/1	<0.004 mg/1
Chromium - Total	5.0 mg/l	<0.01 mg/l
Lead	.5.0 mg/l	<0.02 mg/1
Mercury	0.2 mg/l	<0.002 mg/1
Selenium	1.0 mg/1	<0.002 mg/l
Silver	5.0 mg/l	<0.01 mg/l
*Ignitability	N/A	
*Corrosivity	N/A	
*Reactivity	N/A	

^{*}The classification of these materials as being either Ignitable, Corrosive, or Reactiv is based upon visual inspection and other background information. RACER0058041

All analyses were conducted using EPA "Methods for Chemical Analysis of Water



Calocerinos & Spina Consumna Engineers

ENVIRONMENTAL LABORATORY

1020 Seventh North Street, Liverpool, NY 13026 - (315) 457-6711

To:

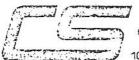
Oberdorfer Foundries, Inc. Thompson Road Post Office Box 4811 Syracuse, New York 13221 Attention: Robert Wolf Date: February 16, 1981

File No. 405.097

Attention:

	ANA	LYSIS REPORT			
			• =	Sample	
Parameter	Result	Location	No.	Туре	Date
Pheno1	<0.10 mg/1	B-3, S-3, 15.0'-16.5'.	289	Grab	2/9/81
Cyanides	<0.04 mg/1	B-3, S-3, 15.0'-16.5'	289.	Grab	2/9/81
Phenol	<0.10 mg/l	B-2, S-4, 20.0'-21.5'	2,86	Grab	2/9/81
Cyanides	<0.04 mg/1	B-2, S-4, 20.0'-21.5'	286	Grab	2/9/81
Pheno1	<0.10 mg/l	B-1, S-4, 20.0'-21.5'	282	Grab	2/9/81
Cyanides	<0.04 mg/1	B-1, S-4, 20.0'-21.5'	282	Grab	2/9/31

All analyses were conducted using EPA "Methods for Chemical Analysis of Water and Wastes (1979)" or "Standard Methods (14th Edition)."



🛮 Calocerinos & Spina CONSULTING ENGINEERS

ENVIRONMENTAL LABORATORY

1020 Seventh North Street, Liverpool, NY 13088 · (315) 457-6711

To:

Oberdorfer Foundries, Inc.

Thompson Road

Post Office Box 4811 Syracuse, New York 13221

Attention: Robert Wolf

Date: May 8, 1981

File No. 405.097

Attention:

Sample No. 939

												Same and the
Λ	NI	Λ	1	V	9	1	9	0	F	0	0	RT

Source Oberdorfer Date Collected Date Received 4/28/81 4/28/81 Time Collected Sample Type

Location Well #1 1600 Grab

		I .	
Parameter	Result	Parameter	Result
Total Organic Carbon	23.0 mg/l	Chromium Hex.	<0.004 mg/l
Phenol	0.115 mg/l	Chromium Total	<0.01 mg/l
Cyanides	0.013 mg/l	Lead	<0.02 mg/1
Chloride	115.0 mg/1	Mercury .	<0.002 mg/l
Arsenic	<0.002 mg/1	Conductivity	4,000. umnos/:
Barium	<1. mg/l	pH	7.8
Cadmium	<0.01 mg/l	Silver	<0.01 mg/l
		Selenium .	. <0.002 mg/1

NOTE: All analyses conducted on the soluble fraction only.

All analyses were conducted using EPA "Methods for Chemical Analysis of Water and Wastes (1979)" or "Standard Methods (14th Edition)."

RACER0058043



7 Calocerinos & Spina CONSULTING ENGINEERS

ENVIRONMENTAL LABORATORY

1020 Seventh North Street, Liverpool, NY 13088 (315) 457-6711

To:

Oberdorfer Foundries, Inc.

Thompson Road

Post Office Box 4811 Syracuse, New York 13221

Attention: Robert Wolf

Date: May 8, 1981

File Nc. 405.097

Attention:

Sample No. 939

ANALYSIS REPORT

Source Oberdorfer Date Collected 4/28/81

Date Received 4/28/81

Location Well #2

Time Collected 1550

Sample Type

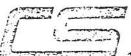
Grab

Parameter	Result	Parameter	Result
Total Organic Carbon	<3. mg/1	Chromium Hex.	<0.004 mg/1
Phenol	<0.010 mg/1	Chromium Total	<0.01 mg/1
Cyanides	0.009 mg/l	Lead	<0.02 mg/l
Chloride .	145.0 mg/l	Mercury	<0.002 mg/1
Arsenic	<0.002 mg/1	Conductivity	2,400. umhos/cm
Barium	<1. mg/l	рН	7.6
Cadmium	<0.01 mg/l	Silver	<0.01 mg/l
		Selenium	<0.002 mg/1

NOTE: All analyses conducted on the

soluble fraction only.

All analyses were conducted using EPA "Methods for Chemical Analysis of Water and Wastes (1979)" or "Standard Methods (14th Edition)."



Calocerinos & Spina CONSULTING ENGINEERS

ENVIRONMENTAL LABORATORY

1020 Seventh North Street, Liverpool, NY 13055 • (315) 457-6711

To:

Oberdorfer Foundries, Inc.

Thompson Road

Post Office Box 4811 Syracuse, New York 13221 Attention: Robert Wolf

Selenium

File No. 405.097

Date: May 8, 1981

Attention:

Sample No. 940

 A	N	A	L	Y	S	1	S	R	E	P	0	R	T	
 	0.000	100	0000											

Source Oberdorfer

Date Collected 4/28/81

Date Received 4/28/81

Location Well #3 Time Collected 1540

Sample Type

Grab

	1
Parameter	Result
Total Organic Carbon	15.0 mg/l
Phenol	0.025 mg/1
Cyanides	0.009 mg/l
Chloride	110.0 mg/l
Arsenic .	<0.002 mg/l
Barium	<1. mg/l
Cadmium	<0.01 mg/l

Parameter	Result
Chromium Hex.	<0.004 mg/l
Chromium Total	<0.01 mg/l
Lead	<0.02 mg/l
Mercury	<0.002 mg/l
Conductivity	2,300. umhos/c
рН	7.1
Silver	<0.01 mg/l

NOTE: Analyses conducted on the soluble fraction only.

All analyses were conducted using EPA "Methods for Chemical Analysis of Water and Wastes (1979)" or "Standard Methods (14th Edition)."

RACER0058045

< 0.002 mg/1

Reprint on Phonols!

Phenols in Foundry Waste Sand

New regulations on solid waste disposal have focused attention on the makeup of foundry waste sands. Here is a reassuring look at one chemical constituent of such sands.

Dr. Calvin K. Johnson Vice President & Technical Director Acme Resin Corporation Forest Park, IL

There has been debate about the potential environmental problems associated with use of phenolic foundry binders for years. Some in the industry specify use of phenol-free binders in the belief that this will eliminate all potential phenol-related environmental problems. Others have used phenolic-containing binder systems for years and have not experienced any environmental problems.

Often decisions on binder selection have been made based on little factual information about potential environmental problems. However, decisionmaking based on inadequate information, personal opinion, or unfounded assumptions is no longer adequate. The new federal EPA regulations' under the Resource Conservation and Recovery Act of 1976 make it the responsibility of all generators of solid waste to determine if the waste is hazardous and to dispose of solid waste in accordance with government regulations. Foundries are responsible for knowing what is in their waste sand and being certain that it is disposed of properly.

This has raised new questions about the potential hazards of phenols in waste sands. This article provides some basic information on phenols and their presence in foundry waste sands, which should help foundrymen make good decisions on binder selection and waste disposal.

First, let's clarify why the EPA and other regulatory agencies are so concerned about phenol leaching into waterways and other drinking water sources. It is not because phenol is extremely toxic or because it is a permanent pollutant like chlorinated biphenyls (PCEs) that do not break down to harmless by-products in nature. In fact, the phenols are readily biodegradable in nature to harmless by-products.

The maximum permissible concentration of phenol in drinking water of 1 ppb (part per billion) is far below the levels of 2000 ppb that is toxic to fish.****io or 7,000,000 ppb that is toxic to man. The low phenol limits are set because chlorination of drinking water converts any phenols present to chlorophenols, which give water a bad taste. Consequently, landfill sites should be selected which minimize any possible leaching or run-off of phenols into waterways or drinking water sources.

Sources of Phenols

What foundry waste sands contain phenols anyway? Does it make a difference what type of binder is used? Do phenolic binders necessarily give waste sands containing more leachable phenols than non-phenolic binders?

The answers to these questions will surprise many foundrymen. Essentially any waste sand from a foundry core or mold process that uses organic binders or additives may contain phenols. This is true even if the binders or additives used to make cores or molds are phenol-free. Phenols can be formed as a result of high-temperature thermal decomposition and rearrangement of organic binders during the pouring process.11-14 Thus, most foundry waste sands are likely to contain traces of phenols. This includes waste green sand, dry sand, shell sand, alkyd oil urethane sand, phenolic urethane sand, furan nobake sand, and even organic modified sodium silicates.

We have run phenol leaching tests using the new federal EPA test method at a pH 5 on a number of foundry waste sands. The results summarized in Table 1 show a wide range of results. It is interesting that waste sand from the phenolic shell mold process, which contains the highest initial phenolic content, is lower in leachable phenols than green sand and some of the other binders tested. Waste shell sands probably have the low leachable phenol

values occause of their very low sandto-metal ratio (0.3:1 to 1:1), which results in very complete burning of the binder during pouring. Maintaining low sand-to-metal ratios and low LOIs on reclaimed chemically bonded sand should reduce phenol levels in waste sand.

The leachable phenol levels are expected to vary from one waste sand to the next depending upon:

- Sand-to-metal ratio.
- Binder type.
- Binder level.
- Degree of cure.
- · Phenol content in the binder.
- Extent of binder thermal decomposition and rearrangement.
- Metal pouring temperature.
- Reciaim sand loss on ignition (LOI).
- Cooling time between pouring and shakeout.

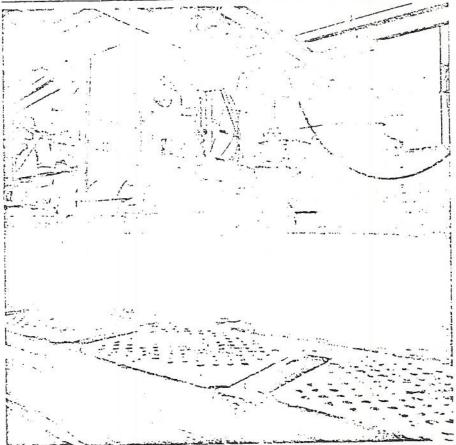
The only way to know the quantity of phenois in a waste sand is to run leaching tests on representative samples.

The results in Table 1 are from typical waste sands. However the amounts of leachable phenois may vary significantly from foundry to foundry depending on foundry practices. Table 1 is presented simply to demonstrate the point that phenois are present in waste sands from a variety of binder systems. The limited data should not be used to predict leachable phenoi contents of sands.

Environmental Effects

Why have there been so few, if any, reported environmental problems related to phenol-containing waste sands if essentially all foundry waste sands contain traces of phenols? There are a number of reasons why leachable phenols have not been a significant problem to date.

First of all, phonols are readily biolic gradable in nature? to harmless by-products. The degrade 10058046 tu-



4.2 million net tons in 1980. Since 1980 foundry coke consumption is estimated at only 2.8 million tons, a surplus exists which will probably continue for several years.

Direct Reduced Iron (DRI)-This product, a substitute for scrap and pig iron, appears to be of growing interest to the steel and foundry industries. Its primary advantage over ferrous scrap as a foundry charge is the absence of objectionable trace elements. However, the available domestic supply of DRI is limited and, at about \$130-140 per ton, FOB plant, is priced considerably higher than recent ferrous scrap quotation. Unless scrap prices escalate or a viable coal-based direct reduction process is developed. DRI is unlikely to become a major input to the foundry industry.

In addition to the above-noted market factors which are expected to affect ferrous casting demand in 1981, there are important longer-term influences on this industry. These include, particularly, the type of castings supplied to the automobile industry as consumer demand shifts to smaller, more energy-efficient cars. Although a significant shift to substitute materials such as aluminum is not expected, the ferrous castings industry will be faced with requirements for much smaller motor blocks and other cast components for the downsized automobiles. This change will also necessitate production of thinner walled castings and a general shift to higher strength casting alloys to facilitate weight reduction. As the basic steel industry shifts its output of raw steel from the ingot form to continuously-cast billets and slabs, there will be reduced demand for ingot molds made by the foundry industry.

These longer-term negative factors in the demand for ferrous castings will be countered by the growth of the overall economy and resulting increased activity in the sectors which consume castings-automotive and machinery output and railroad car production. Ferrous foundry production is expected to maintain a growth rate trend of approximately 1% per year. By 1985, using the average shipments for the years 1977, 1978, and 1979 as a base, casting shipments should be in the 19 million tons per year range and valued at \$22 billion in the then current dollars.

Nonferrous Castings

The predicted recovery in automotive production indicates that aluminum casting shipments may reach 1.9 million pounds in 1981. The 1980 economic recession, which significantly impacted the aluminum casting industry, resulted in 1980 shipments falling to an estimated 1.6 million pounds compared with 2 million pounds in 1979.

The major product of this industry continues to be die castings which

represent about 65% of total aluminum. casting production. The bulk of aluminum castings are used by the automotive industry with die castings representing about 70% of the weight of aluminum in an average car model.

Although applications for aluminum castings in automotive construction are increasing in number, downsizing and weight reduction are restricting the increase in aluminum use per automobile. In 1979, 120 pounds of aluminum were used per car. Usage is estimated at 130 pounds in 1980 and projected to increase to 140 pounds in 1981.

Diecasting applications, once the largest market for slab zinc, have decreased because of the substitution of lighter weight or less expensive materials such as plastic, aluminum. and magnesium. The automotive industry, accounting for half of diecast consumption, has been a prime factor in the decreasing demand for zinc diecast products. Automakers attempting to meet mandated fuel economy requirements, increase vehicle mileage and decrease costs have downsized vehicles and have reduced overall weight. These factors, coupled with an overall decline in auto production during 1980 resulted in an 18% decline in diecasting demand.

In 1980 zinc use in diecasting dropped to about 285,000 tons from 346,000 tons in 1979. In 1981 zinc diecasting should increase about 7% to 305.000 tons as a result of improved durable goods and automotive markets. The diecasting industry, however, will be increasingly affected by the trend toward smaller cars. The Zinc Institute estimates that the average U.S. produced 1980 small car contained 18.4 pounds of zinc die castings compared to 37.2 pounds in the standard size model. Zinc producers have attempted to reverse the declining diecasting trend by introducing new "thin-wall" castings. These new castings have recaptured some applications but their increasing acceptance will, at best,

stabilize the market.

Production of zinc die castings is expected to stabilize in 1981-82, then to gain modestly as "thin-wall" die castings regain some lost applications and the cost of substitute materials increases. The price advantages enjoyed by plastic and aluminum have been greatly reduced in recent years and are not expected to recur soon. Tempering expectations is the possibility that the automotive industry could undergo radical change by further downsizing of cars or elimination of the production of many standard size models. If this occurs on a large scale prior to 1985, the projected growth in the discussing market would be all but eliminateRACER0058047

Table 1. Leaching Test on Waste Sand.1

Waste Sand	Phenolis No-Bake. BSA Cit.	Shell	Shell	Shell	Green Sand	Phenolic Uzethana	Puron No-Bake (Pacaol Free) 151 Gat.	Furan No-Bake Phenolic Modifica MarFO, Cat.	Aikv-011 Unvilune	EPA Standary(3)
Foundry Process	Cores and Molds, Grey iron Castines	Molds, Strel Castings	Holds, Grey Iron Castings	Core Butts, Grey Castings	Molds. Grey Iron Castings	Molds & Cores, Steel	Molds & Cares, Steel	Molds & Cores, Grey Iron	Molds & Cores Aluminum	
Leachable Phenol parts per million (ppm)	0.03 to 0.13	0.01	0.01	0.03 to 0.09	0.26	0.73	0.10	0.49	0.04	none
pH of Leachate(2)	6.97	6.73	-	5.5	9.09	5.93 to 7.58	4.7	11.03	5.5	greater than 2 and legs than 12.5
Leacnable Metal concentrations mg/l										
Arsenic	<0.0045	<0.0045	-	40.0045	<0.005	<0.0032	-	-	-	5 =5/1
Barium	0.1	<0.1	<0.1	<0.01	< 0.2	۷٥.1	<0.1	K0.1	40.1	100 mg/l
Cadmium	< 0.01	<0.01	-	<0.01	<0.01	<0.01	-	1	-	1 = 1/1
Chromium	(0.03	40.03		<0.03	<0.03	< 0.03	-	1 -	-	5 mg/1
Lead	<0.05	<0.05	-	<0.05	40.05	< 0.05	-	-	-	5 mg/1
Mercury	-	-	-	-	-	₹0.0005	-	1-	-	0.2 mg/l
Selenium	< 0.0047	< 0.0CL7	< 0.001)	K0.0043	< 0.3047	∠ 3.0042	-	-	-	1.0 =2/1
Silver	<0.01	<0.01	(0,01	K 0.01	4.0.01	₹0.01	-	-	•	5.0 mg/1

1) Leaching tests run according to EPA method Federal Register. Vol. 43, No. 2h3 at pH of 5. 2) pH taken after suspension of 100 gm of sand in 1600 ml of water and stirred for 15 minutes.

3) Federal Register, Vol. 45, May 19, 1980, 40 CFR Part 261.

rally-occurring phenols is an integral part of nature's carbon cycle. Many micro-organisms, yeasts, molds, algae and higher marine plants are capable of degrading phenols.

Biodegradation of phenols is known to occur under both aerobic and anaerobic conditions. It also occurs under a variety of conditions of pH and temperature. 13-16 In studies designed to simulate degradation of phenol and cresols in surface waters, it was shown that 95 to 100% degradation occurs in 7 days.17-18 Phenols added to water samples of two estuarine rivers along the Atlantic coast of the United States rapidly degraded to CO, in an aquatic environment.19

Nature is well-equipped to handle phenols, which are present in nature from a wide variety of sources. In domestic sewage, phenols are normally present at concentrations of 70 to 100 ppb.20 Human and animal urines contain phenols.21-23 The sum total of cresols, particularly p-cresols, released to the environment through human urine has been estimated to be over 4 million pounds per year. The amounts released from animals must be far larger than that.

Another major source of naturallyoccurring phenols is in foods and flavoring agents.24 Humans have consumed phenols for centuries from such common foods as coffee, tea, butter, whiskey, wine, beer, and eggs.

Decaying vegetation such as oak leaves produces phenols. Phenols have been characterized as components of leaves and flowers." Phenols from decaying vegetation can be a major source of phenols in rivers following run-off from heavy rainfalls. When

monitoring possible phenol discharge from a landfill or industrial source it is important to sample and test the water both upstream and downstream from the site. The phenols present in the upstream samples measure the amounts from natural sources or from other industrial sources.

A fourth natural source of phenols is secretions from insects and other arthopods. For example, the defensive secretion of the cockroach contains phenols.27 It has been estimated that as much as 11 million pounds of phenols are released annually into the environment by insects.

The second reason why phenol leaching from waste sands has not generally been a serious problem is that both the concentrations and the total amounts of phenols present are low. The total amount of phenols released to the environment from foundry waste sand can be estimated by using results from appropriate leaching tests combined with the total tons of foundry sands used annually in the United States (the Bureau of Mines 1979 figure is 9,846,000 tons). Our own calculations show an estimated 94,500 lb of leachable phenols annually. This is a very small quantity relative to the amounts released by other natural sources of phenols. Nature apparently can handle the very small incremental amounts of phenols released from waste foundry sands.

Another way to estimate the amounts of phenols in waste sand from foundries is to use the average quantities of solid waste published in the American Foundrymen's Society Solid Waste Disposal Manual of 0.32 tons of solid waste per ton of ferrous castings

and 0.6 pounds of solid waste per pound of nonferrous metal cast. Using these values and the phenol levels in Table 1, the amounts of leachable phenols in foundry waste sands can be estimated. This approach also shows that the quantity of phenols from foundry waste sands is very small.

It should also be pointed out that leachate from foundry waste sand is generally no more hazardous than the leachate from domestic garbage.28, 29

Classification of Waste Sands

Foundry waste sands are not specifically listed as hazardous waste from either specific or non-specific sources in the new EPA regulations of May 19, 1980.1 (Articles 261.31 and 261.32). There are no specific standards for leachable phenols in foundry waste sands in the regulations. The foundry generating the waste sand is, however, required to determine if the solid waste is hazardous by testing for the characteristics of corrosivity, reactivity, ignitability, or EP toxicity (Articles 261.22, 261.23, 261.21, and 261.24).

Foundries should pay particular attention to the EP toxicity test with regard to certain heavy metals listed in the regulation. Leach test results listed in Table 1 indicate that most foundry sands should be way below the limits for metals. Generally, foundry waste sands are expected to be classed as non-hazardous under the federal EPA regulations. State regulations must also be considered, as they may be more stringent than the federal rules.

For a free copy of this article with references, circle no. 303 on the Reader Action Card.



New York State Department of Environmental Conservation

MEMORANDUM

TO:

Mr. Halton

FROM:

K. DelPrete Kathy

!

SUBJECT: In-Place Toxics Inspection Follow-up for

Frazer & Jones Foundry, Syracuse (C) and Oberdorfer Foundry, Syracuse (C)

DATE: October 2, 1979

> As a result of our initial inspections and subsequent surface water samplings of the above-referenced facilities, we are recommending a change to their class designation. Previously, both sites had been designated as Class B priority: "Detailed chemical analysis or hydrogeological survey is needed, if warranted by the site's potential for health and environmental impact."

Both facilities should now be designated as Class E priority: "Properly operated or closed and maintained site; periodic surveillance and chemical analysis required". Our main concern regarding these sites was the potential. for the leaching of phenolic compounds from landfilled spent foundry sands. Phenolic-based resins are used as foundry sand binders. Our samplings of surface waters near the active dump sites did not reveal phenol concentrations in excess of applicable State water quality standards (maximum concentration measured was 0.003 ppm).

The reason we did not designate these facilities as Class F ("No in-place toxics are present in dangerous amounts and no further action is required") is that the Bureau of Solid Waste has investigated a few cases of groundwater contamination from phenolic compounds leaching from landfilled foundry sand in Region 9. We felt that this Department should periodically monitor the active foundry sand disposal sites in our Region to preclude the possibility of serious environmental problems developing.

Cc: McContly Guala Godland Miller, Ren,

HAZARDOUS WASTE DISPOSAL SITES REPORT NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

. Code: F Size Code: 734017	
Mame of Site: Oberdorfer Foundries, Inc.	Region: 7
County: Onondaga Taxx	A/City Syracuse
County: Onondaga Taxx Street Address: Thompson Road, Syracuse	-, -,
Status of Site Narrative:	
his foundry operation was using on-site disp	osal for spent core sands refrac
inings, air control equipment dust, etc. Th	is Department's investigation of
resence of phenolic binders in this waste wa	is concluded with a sampling study
une 28, 1979, which showed no phenols in exc	ess of water quality standard
	Joseph January Standard.
2	
3×	
264	
Time of Cine. Once No.	
Type of Site: Open Dump 🐼 Treatment P Landfill 🖂 Lagoon(s)	
Landfill	Mumber of Lagoons_
Strategy and the second	
Estimated Size <u>UNKNOWN</u> Acres	
Hazardous Wastes Disposed? Confirmed	Suspected XX
##	
*Type and Quantity of Hazardous Wastes:	
TYPE	QUANTITY (Pounds, drums
	tons, gallons
	, -

ame of Current Owner of Site:
ddress of Current Owner of Site:
ime Period Site Was Used for Hazardous Waste Disposal:
, 19 To, 19
s site Active TX Inactive T Site is inactive if hazardous wastes were disposed of at this site and site as closed prior to August 25, 1979)
ypes of Samples: Air
emedial Action: Proposed Under Design Completed Nature of Action:
tatus of Legal Action: NONE State Federal
ermits Issued: Federal Local Government SPDES ONE Solid Waste Mined Land Wetlands Other
ssessment of Environmental Problems:
o identification of hazardous wastes has been determined at this site in significant uantities.
ssessment of Health Problems:
les."
·
ersons Completing this Form:
.D. Knowles R. Tramontano
York State Department of Environ- New York State Department of Health
Parch 10, 1980 Date March 10, 1980

In-Place Toxics Inspection

Oberdorfer Foundries, Inc. Syracuse (C), Onondaga County

Oberdorfer Foundries, Inc. is located in a heavily concentrated industrial/commercial section of the eastern portion of the City of Syracuse. The Company, which has been located at this site since 1922, casts aluminum (90% of castings) and brass items used in engine assemblies and manufactures small centrifugal pumps. Oberdorfer employs approximately 380 employees in a two shift/day, 5½ day/week operation; foundry operations include sand molding, core making, metal melting and pouring, inspection and cleaning, machining and final inspection.

As is typical of foundry operations, Oberdorfer disposes of spent core sands, molding sands, refractory linings, and baghouse dust at a dump on Company property. The present dump is southeast of a past disposal site, which is now heavily vegetated. The dumps reflect the historical change of foundry metals: bronze, magnesium, and now brass and aluminum. Company representatives also suspect that in past spent sands were used as fill material throughout the East Syracuse area, although no data exists. The present aluminum casting operations produce approximately three tons of landfillable material (e.g. sands, shot blast dust) for every ton of shippable castings.

Oberdorfer has studied the problem of potential leachate effects due to their sand disposal operation. As a member of the Amercian Foundrymen's Society, they have access to a recently published report, "Foundry Landfill - Leachate from Solid Waste", which describes the characteristics typical of foundry landfill leachate. It should be noted that during this investigation, no leachate was observed.

The attached Oberdorfer memo also describes the nature of the sand which enters the dump site. The binders used in the various sands are described below:

Sand	Binder
shell	phenol formaldhyde
isocure	phenol isocyanate
pepset	phenol isocyanate
resin	various resins
CO2	sodium silicate

The Company is continuing to investigate the characteristics of the sand which is land-filled.

There are presently three wastewater (e.g. process and cooling waters) outfalls into Ley Creek which are covered by NPDES Permit No. NY-0003026. The Company is presently modifying their water usage to either eliminate some flows, create closed loop systems, or connect to the municipal system.

Other operations at the plant which generate waste products are handled in environmentally acceptable ways: waste oil, approximately 100-150 gallons per year, is used for dust control on site; metal scrap and dross are sent to recycling firms; 1,1,1 trichlorothane is also recycled.

As regards the leaching of uncured phenolic and/or phenol isocyanate binders from land-filled sands, the Company has calculated that potentially approximately 0.00022 lb. leachable phenol may be obtained from every pound of waste sand (Reference: American Foundrymen's Society report). No leachate was observed near Oberdorfer's dumps. It

may be expected that if any phenol were being leached from the sands, it would show up in groundwater and/or the pearest surface water: Ley Creek. It is recommended that Ley Creek be sampled both upstream and downstream of Oberdorfer to determine if in fact any phenol, other binder materials, or heavy metals are entering State waters.

The Onondaga County Health Department did not participate in this inspection. They are being advised of our findings and will be asked to provide any monitoring data available on Ley Creek.

TO: T. Weinman R. Wolf FROM: T. Nurley

DATE: February 28, 1979

SUBJECT: SAND DISPOSAL - LEACHATE EFFECTS

We have recently completed some cursory experiments and observations to enable us to estimate the condition in which we dispose of sands. We have discussed this matter with R. Wolf. We are assuming that based on the condition of sands being disposed of Bob will be able to give potential leachate concentrations which is really the objective of this monitor program.

In our discussion with Bob, he indicated that the leachate effects are due not only to the material in the sand but also due to whether the sand is raw, cured or burned (from casting).

Our interest in this program was only to estimate, for each type of sand, the percentage of each disposal condition. This data will have to be analyzed by Bob Wolf to determine what the potential effects are. You will also have to classify some disposal according to the breakdown given below.

The disposal conditions are as listed and described:

- 1) RAW (R) This refers to sand which has been mixed for a given binder system but disposed of prior to curing. (Sand mixed or purchased less sand used to make cores.)
- 2) CURFD (P) This refers to sand which has been cured by core making process but has not seen any thermal destruction (burning) from the casting. This includes core scrap plus any mixed but dumped pepset sand and the unburned remnants of cores in the casting.
- 3) BURNED (B) This refers to sand which has been thermally affected by the casting process.
- 4) <u>CLEAN (T)</u> This refers to sand which is removed from the casting in a heat treat process. This sand has vertically all binder remnants removed and is essentially clean ram sand.

Page 2

The following breakdown is our estimate of the condition of the major core sends.

	RAW	CURED	BUPNED	CLEAH	,
Shell	*	** + 30%	40%	30%	
Isocure	*	** + 50%	30%	20%	
Pepset		*-** + 50%.	25%	25%	
Resin	áτ	** + 30%_	50%	20%	88 NAS
co ₂	ጵ	** 70%	30%	rta - Zi zi - i	
NOTE:	. *	- Losses prior t	co curing (Spi	llage/Spoila	ge)
	**	- Losses after o	euring (Core So	erap).	
	. %	- Figures are %	of cores <u>used</u>		٠

Please advise if you need further information.

TH/hg

TOM HURLEY

to trade to a series there the real

a e a cara e a la la la la electrica e la la la electrica e la la la la electrica e la la la electrica e la la

्रा । अने कार्य कर्णकार्य कर्ण कर्ण

engi kan wasan esi seri d

	TT	AC
37	亡了	H

POTENTIAL HAZARDOUS WASTE SITE IDENTIFICATION AND PRELIMINARY ASSESSMENT

REGION	SITE NUMBER (to be se-
1	NY000005388

NOTE: This form is completed for each potential hazardous waste site to help set priorities for site inspection. The information submitted on this form is based on available records and may be updated on subsequent forms as a result of additional inquiries and on-site inspections.

GENERAL INSTRUCTIONS: Complete Sections I and III through X as completely as possible before Section II (Preliminary

	I. SITE IDI	ENTIFICATION	
A. SITE NAME		B. STREET;(or other identifi	ier)
OBERDORFER TOUND	RIES INC.	THOMPSON ROA	10
C. CITY		D. STATE E. ZIP COD	
SYRACUSE (DE WITH	r)	NEWYORK 1320	
G. OWNER/OPERATOR (II known) 1. NAME	11/-	- A Nicery	
1. NAME OBER DORFER FOU	NDRIES (PRESID	DENT !	(315) 437-0361
H. TYPE OF OWNERSHIP			
1. FEDERAL 2. STATE	3. COUNTY 4 MUN	CIPAL 5. PRIVATE	E UNKNOWN
I. SITE DESCRIPTION 2 SITES. I AC DESCRIPTION, ON THE ACTIVE BIT OIL, APPROX. 100-150 GALYERR, HE CLAY & PHENDLICS	CTIVE, limitive, BOTH OF THE WASTE FROM ALUMI TTHE SCRAPS (NOW BE	U COHPANY PROPERTY WUT CASTING INCLUDE ING RECYCLED), SCLUE	OF INACTIVE SITE IS COLORED WITH THE PROPERTY WITH THE WITH MANNER BUNDERS BUNDERS BUNDERS
J. HOW IDENTIFIED (1.0., citizen's comp SITE IS LISTED IN THE NY VIRONMENT "I TECHNICAL	SDEC'S TOXICE S	DESTANCES IN NEW	YOCK'S EN- K. DATE IDENTIFIED (mo., day, & yr.) 5/1979
	NEPORI		3/17/7
1. NAME DANIEL B. HALTON HENTAL QUALITY, NYSDE	P.E. REGIONAL	ENGINEER FOR ENVIR	8/950_5111 (375) 473-8311
		NT (complete this section I	
A. APPARENT SERIOUSNESS OF PROBL		in (complete ims section i	(431)
1. HIGH 🔀 2. MEDIUM		5. UNKNOWN	
B. RECOMMENDATION			
1. NO ACTION NEEDED (no heserd)		2. IMMEDIATE SITE IN	
3. SITE INSPECTION NEEDED a. TENTATIVELY SCHEDULED F	OR:	b. WILL BE PERFOR	RMED BY:
b. WILL BE PERFORMED BY:		****	
		4. SITE INSPECTION	NEEDED (low priority)
C. PREPARER INFORMATION			
1. NAME		2. TELEPHONE NUME	BER 3. DA FE (mo., day, & yr.)
GEORGE B. RAD	ラシン	(212) 264-15	76 4/24/80
		FORMATION	1/2//3
A. SITE STATUS	111. 311 € 11	TORMATION .	
1. ACTIVE (Those Industrial or	2. INACTIVE (Those sites which no longer receive	3. OTHER (epecify):	ch incidente like "midnight dumping" where
municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.)	westes.)	no regular or continuing use	or the site for waste disposal has occurred,
municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.)			or the site for waste disposal has occurred,
municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even it infrequently.)	(2 SITES!)		or the site for waste disposal has occurred,
municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.) B. IS GENERATOR ON SITE?	(2 SITES!)	prator's four-digit SIC Code):	

02-8007-DISCUSSION FIELD TRIP CONFERENCE RECORD OF COMMUNICATION Hazardous Waste Site Inspection Report (Record of Item shecked above) TO: FROM: DATE Sept. 16, 1980 Dr. Richard D. Spear Brian Jacot TIME 9:30am SUBJECT OBERDORFER FOUNDRIES, INC. SUMMARY OF COMMUNICATION This is the site of two foundry waste dumps, one active and one inactive, located adjacent to Oberdorfer's foundry operations. The active site is approximately 6-8 acres in size and 4-8 feet deep. The inactive site is of somewhat smaller proportions and was closed in 1942. It is now covered with heavy vegetation. The present aluminum casting operations produce approximately 42 tons per day of material to be landfilled. These wastes are spent foundry sands containing chemical binders which include: phenol-isocyanate, phenol-formaldehyde and phenol-urea. The active dump is fenced and the area is served by public water supply. There are no residences or private wells in the vicinity of the site. In addition, the New York State Department of Health, Div. of

Oberdorfer is operating in compliance with its NPDES permit and all other permits necessary for its continued operation.

Laboratories and Research performed a sampling analysis on nearby Ley Creek. Results showed phenols at a concentration of .003 ppm, well within applicable

CONCLUSIONS, ACTION TAKEN OR REQUIRED

water quality standards.

Based on our site investigation and the sampling results from nearby surface waters, it is our conclusion that this landfill is being operated in an environmentally sound manner and that groundwater quality is not being compromised.

INFORMATION	COPIES
TO.	

0	
20	
6	

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT

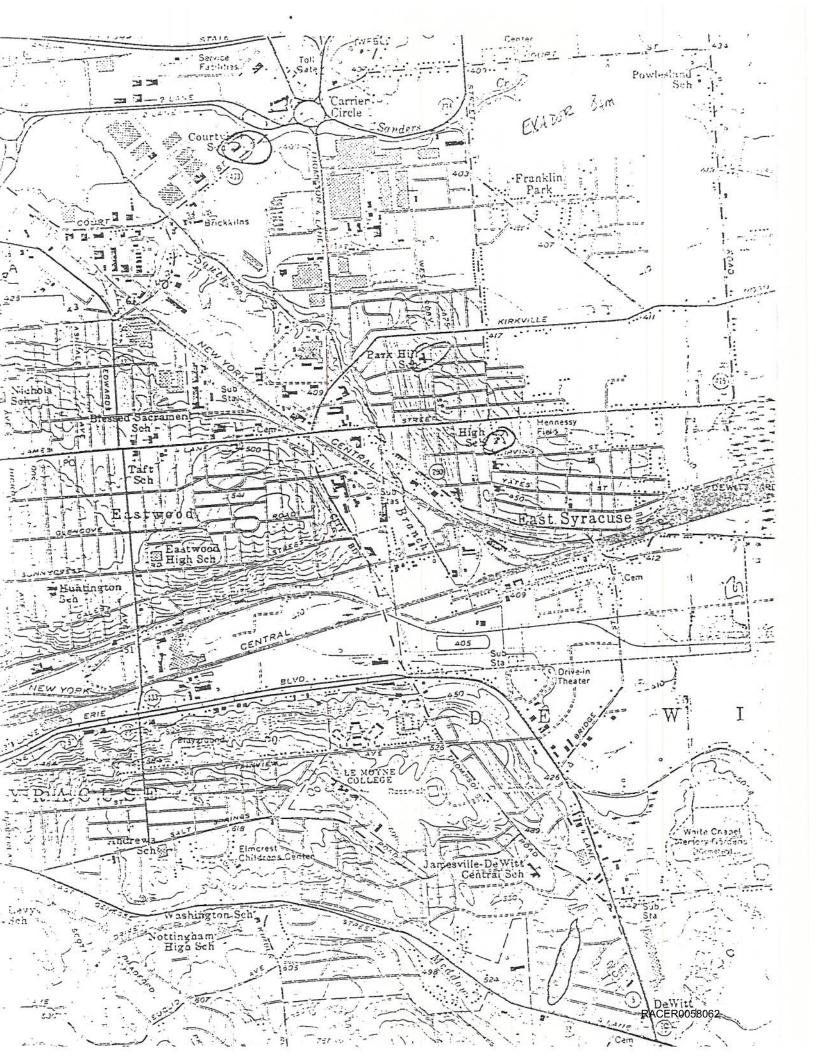
SION	BIT	E	NU	M (BE	R	(10	80	oneign
	04	07	H	U					
	HOIL	. ed	ed by	od by He	od by He	ed by He	ed by He	od by He	Od by He

2

GENERAL INSTRUCTIONS: Complete Sections I and III through XV of this form as completely as possible. Then use the information on this form to develop a Tentarive Disposition (Section II). File this form in its entirety in the regional Hazardous Wasta Log File. Be sure to include all appropriate Supplemental Reports in the file. Submit a copy of the forms to: U.S. Environmental Protection Agency: Site Tracking System. Hazardous Wasta Enforcement Tack Force (EN-335): 401 M St., SW: Washington, DC 20460.

A. SITE NAME	I. SITE IDEN					
Oberdorfer Foundries	Inc ·	Thompson Road				
c. city	, 1110	D. STATE	TE. ZIF CODE	IF. COUNTY NAME		
Syracuse· •		NY	13201	Onondaga		
S. SITE OPERATOR INFORMATIO	N		*************************************			
1. NAME	54			2. TELEPHONE NUMBER		
Oberdorfer Foundries	. Inc			<u>315-4</u> 37 <u>-0</u> 36 <u>1</u>		
3. STREET	, 40C a. CITY -			S. STATE 6. ZIP CODE		
BEAL VALUE INVISUATION	(il sillerent from operator of site)					
I. NAME	(11 Sillerent trom operator of site)			1 2. TELEPHONE NUMBER		
	· *					
5. clty — — —				4. STATE S. ZIP CODE		
SITE DESCRIPTION						
6-8 Acres foundry was	ste dump. Inactive dump	w/veneta	tion cover	also on site		
TYPE OF OWNERSHIP		- ALLO				
1. FEDERAL Z ST	ATE 3. COUNTY 4	L. MUNICIPAL	S. PRIV	ATE		
PETIMANERIES	II. TENTATIVE DISPOSITION					
DISPOSITION (mo., day, & yr.)				TXI & NONE		
	1. HIGH :	Z MEDIUM	3. LOW	TV T HOUSE		
PREPARER INFORMATION						
. NAME	1	2. TELEPHO	NE NUMBER	S. DATE (mo., day, & yt.).		
Brian J. Jacot		- 201-621-6	800	9/15/80		
Di van Di nacoc	III. INSPECTION			1 3/1.//00		
PRINCIPAL INSPECTOR INFOR	MATION					
. NAME	(C)					
		2. TITLE		ŧ.		
Brian J. Jacot			nmental_Eng	ineer		
. ORGANIZATION			nmental_Eng	4. TELEPHONE NO. (area code &		
Fred C. Hart Associat			nmental_Eng	201-621-6800		
Fred C. Hart Associat	tes, Inc	Enviro	nmental_Eng	201-621-6800		
Fred C. Hart Associat		Enviro	nmental <u>E</u> ng	4. TELEPHONE NO. (area code &		
Fred C. Hart Associat INSPECTION PARTICIPANTS 1. NAME	tes, Inc	_ Enviro		201-621-6800		
Fred C. Hart Associat INSPECTION PARTICIPANTS 1. NAME	tes, Inc	_ Enviro		201-621-6800		
INSPECTION PARTICIPANTS I. NAME Gregory Shkuda	Fred C. Hart Associa	Environ		201-621-6800 3. TELEPHONE NO.		
Fred C. Hart Associat INSPECTION PARTICIPANTS 1. NAME	tes, Inc	Environ		201-621-6800		
Fred C. Hart Associat INSPECTION PARTICIPANTS 1. NAME Gregory Shkuda	Fred C. Hart Associa	Environates, Inc		201-621-6800 3. TELEPHONE NO.		
Fred C. Hart Associat INSPECTION PARTICIPANTS 1. NAME Gregory Shkuda Jim Shirk Edward Moore	Fred C. Hart Associa	Environates, Incutes, Incutes, Inc		201-621-6800 201-621-6800 201-621-6800		
Fred C. Hart Associat INSPECTION PARTICIPANTS 1. NAME Gregory Shkuda Jim Shirk Edward Moore	Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa	Environates, Incutes, Incutes, Inc	•	201-621-6800 201-621-6800 201-621-6800		
Fred C. Hart Associated Inspection Participants I NAME Gregory Shkuda Jim Shirk Edward Moore SITE REPRESENTATIVES INTE	Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa RVIEWED (corporate officials. Worker 2. TITLE & TELEPHONE NO.	Environ ates, Inc ates, Inc ates, Inc ates, Inc	•	201-621-6800 201-621-6800 201-621-6800 201-621-6800 201-621=6800		
Fred C. Hart Associated Street C. Hart Associated Street Control Participants 1. NAME Gregory Shkuda Jim Shirk Edward Moore SITE REPRESENTATIVES INTE	Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa	Environ ates, Inc ates, Inc ates, Inc ates, Inc	•	201-621-6800 201-621-6800 201-621-6800 201-621-6800 201-621-6800		
Fred C. Hart Associated Inspection Participants I NAME Gregory Shkuda Jim Shirk Edward Moore SITE REPRESENTATIVES INTE	Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa RVIEWED (corporate officials. Worker 2. TITLE & TELEPHONE NO.	Environ ates, Inc ates, Inc ates, Inc ates, Inc	•	201-621-6800 201-621-6800 201-621-6800 201-621-6800 201-621=6800		
Fred C. Hart Associated Inspection Participants I NAME Gregory Shkuda Jim Shirk Edward Moore SITE REPRESENTATIVES INTE	Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa RVIEWED (corporate officials. Worker 2. TITLE & TELEPHONE NO.	Environ ates, Inc ates, Inc ates, Inc ates, Inc	•	201-621-6800 201-621-6800 201-621-6800 201-621-6800 201-621=6800		
Fred C. Hart Associated INSPECTION PARTICIPANTS I. NAME Gregory Shkuda Jim Shirk Edward Moore SITE REPRESENTATIVES INTE	Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa RVIEWED (corporate officials. Worker 2. TITLE & TELEPHONE NO.	Environ ates, Inc ates, Inc ates, Inc ates, Inc	•	201-621-6800 201-621-6800 201-621-6800 201-621-6800 201-621=6800		
Fred C. Hart Associated Inspection Participants I NAME Gregory Shkuda Jim Shirk Edward Moore SITE REPRESENTATIVES INTE	Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa RVIEWED (corporate officials. Worker 2. TITLE & TELEPHONE NO.	Environ ates, Inc ates, Inc ates, Inc ates, Inc	•	201-621-6800 201-621-6800 201-621-6800 201-621-6800 201-621=6800		
Fred C. Hart Associated Inspection Participants I NAME Gregory Shkuda Jim Shirk Edward Moore SITE REPRESENTATIVES INTE	Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa RVIEWED (corporate officials. Worker 2. TITLE & TELEPHONE NO.	Environ ates, Inc ates, Inc ates, Inc ates, Inc	•	201-621-6800 201-621-6800 201-621-6800 201-621-6800 201-621=6800		
Fred C. Hart Associated Street C. Hart Associated Street Control Participants 1. NAME Gregory Shkuda Jim Shirk Edward Moore SITE REPRESENTATIVES INTE 1. NAME	Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa RVIEWED (corporate officials. Worker 2. TITLE & TELEPHONE NO.	Environ ates, Inc ates, Inc ates, Inc ates, Inc	•	201-621-6800 201-621-6800 201-621-6800 201-621-6800 201-621=6800		
Fred C. Hart Associated Street C. Hart Associated Street Control Participants 1. NAME Gregory Shkuda Jim Shirk Edward Moore SITE REPRESENTATIVES INTE 1. NAME	Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa RVIEWED (corporate officials. Worker 2. TITLE & TELEPHONE NO.	Environ ates, Inc ates, Inc ates, Inc ates, Inc	•	201-621-6800 201-621-6800 201-621-6800 201-621-6800 201-621=6800		
Fred C. Hart Associated Street C. Hart Associated Street Control Participants 1. NAME Gregory Shkuda Jim Shirk Edward Moore SITE REPRESENTATIVES INTE 1. NAME	Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa Fred C. Hart Associa RVIEWED (corporate officials. Worker 2. TITLE & TELEPHONE NO.	Environ ates, Inc ates, Inc ates, Inc ates, Inc	•	201-621-6800 201-621-6800 201-621-6800 201-621-6800 201-621=6800		

	VIII. HAZARD DESC	RIPTION (continued		
B. HON-WORKER INJURY/EXPOSURE				
				10 Sec. 12
2 4				
			s .	
	N/A .			
. 3	N/A	1, 10		
		a.e., a		
C. WORKER INJURY/EXPOSURE		· · · · · · · · · · · · · · · · · · ·		
				× .
a .			•	
	N/A	- 4		
	9526			
D. CONTAMINATION OF WATER SUPPLY				
			2	
	27			
	N/A			
E. CONTAMINATION OF FOOD CHAIN			ě	
9				
			j	
	N / A			
	N/A			
7 6				10 2.2.
F. CONTAMINATION OF GROUND WATER				
The New York State Departme	nt of Health, Di	v. of Laboratori	es and Research	performed
a sampling analysis for phe	nols at Ley Cree	k (approx. 1/4 m	ile from the sit	te). Results
showed a concentration of .				
15	oos ppiii or prierio	is, willen is be.	on appricable 5	ace water
quality standards.				
G. CONTAMINATION OF SURFACE WATER				
*	*			
See above				
				and the second s



		b. OIL	I		CLVENTS			EMICALS	. SOLIDS	1. OTH	E >-
		AMOUNT	T	A-0U-1			OU NT	15/15	AMOUNT	OUNT	
	1	1				u	nknov	٧n	approx. 42	1	
7	LALUPI	UNIT OF MEASUR	2	UMIT 0	MEASURE	100	17 07	MEASUR		I JUNIT OF ME	4505
						1			tons/day	1	
1:::	T. EMTS	11 OILY	Ļ		LOGENATE	- -	111 AC1	C 3	12	11, LABO	= A T O
121 MYT		210THER(*P*	city):		ALOGNI	s.	121 -10	K L 1 № G	121 ASBESTOS	(2) = 03=1	TAL
(3) 2071	•		F	13107	HER(specify)-	131 C A U	3 T I C 3	131 TAILINGS	TE I ISTRADIO	ACTI
(a) \$ LUC	C E						(4) P K 3	71C10ES	FIRROUS SHE	IA) MUITIC	ILVF
13) 078	(A (Apoclty):						(2) DYX	3/14K3	Y SMLTG. WAS	US 151 07 11 K	स (स्झर
				0.7			(8) C 7 4	HIDE	V 1610THER(POC		
						X	(7) ₽₩5	HOLS	spent foundry sands	y	
							I HAL	.0GENS		-	
93							10, PC 5				
						у	iici=E	nes_			
				177	e;			MER(4Pe			
					2			l bin			
			!_					c res			
D. LIST SUE	STANCES O	F GREATEST COM	-	2. FORM		SITE		in descer	ding order of hezard)		1
				mark 'X		(mark			A. CAS HUMBER	S. AMOUNT	5. 11
	1. SUBSTAN	·CE	LID	L10.	POP -16	MED.	LOW.	d. ≈0≒ë			
		•	1	1	i		i		· · · · · ·		T
Chemical	Binders	s-(phenols)	X				X				
			1	i	i						Ī
			1	-			1				
	8.	e									1
	A									•	
							1		1		
											!
·					I. HAZARO						
·	LUATION	HAZARD DESCR	12710						that the listed bazard	exists: Describ	the the
·			IPTIO						that the listed barard	exists: Describe	the the
FIELD EVA		-videc	12710						that the listed bazard	exists: Describe	: the
FIELD EVA	e space pro	-videc	IPTIO						that the listed barard	exists: Describe	the
FIELD EVA	e space pro	-videc	12710						that the listed barard	exists: Describe	the
FIELD EVA	e space pro	-videc	12710						that the listed bazard	exists: Describe	the
FIELD EVA	e space pro	-videc	12710						that the listed bazard	exists: Describe	the

O- D-1- (

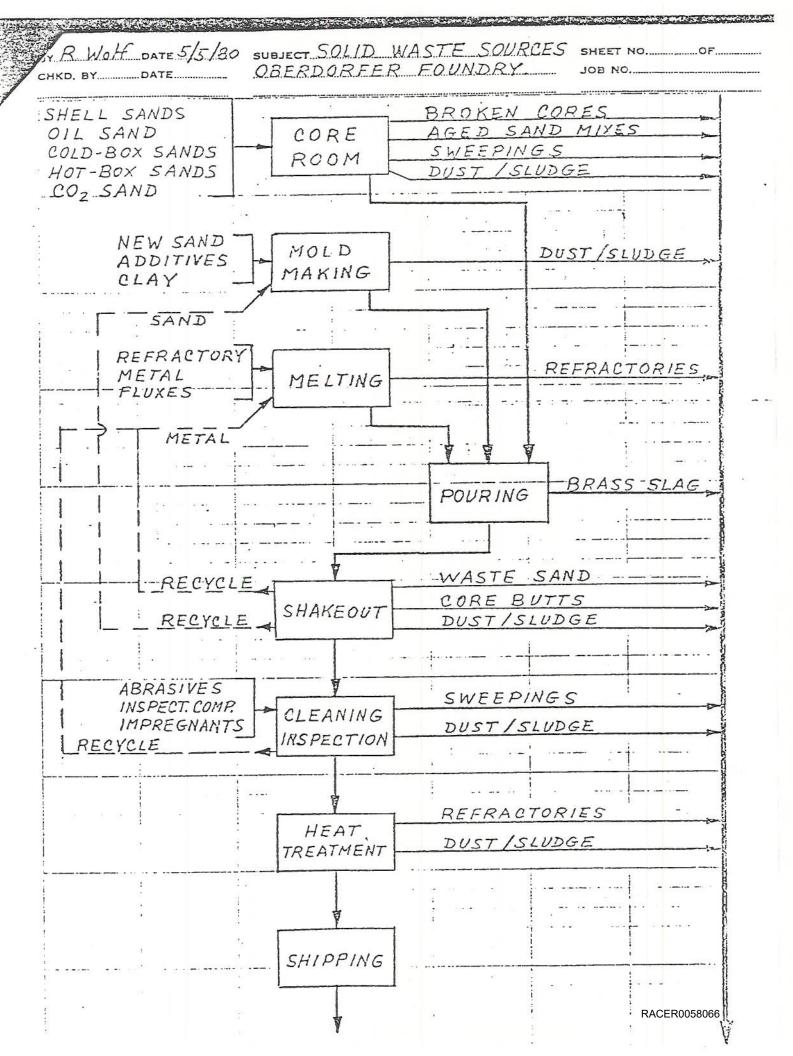
viu.	MAZARU UESCRIF	' [IÜN (continu=d)		
EN INJURY/EXPOSURE				
	1 1			
	* * * * * * * * * * * * * * * * * * * *			
	N/A		<u>.</u>	
	for the first	() ·		
C. WORKER INJURY/EXPOSURE				
				2
¥	*		•	
	N/A		X	
D. CONTAMINATION OF WATER SUPPLY				
		2	•	
	¥1			
			32	3780
	N/A			
E. CONTAMINATION OF FOOD CHAIN			-	
*			1	
	N/A		20	¥.
· · · · · · · · · · · · · · · · · · ·				· · · · ,
F. CONTAMINATION OF GROUND WATER	Haalah Div	of Laboratories	and Pesearch	performed
The New York State Department of a sampling analysis for phenols	nedicii, Div.	(approx 1/4 mil	e from the sit	e) Résults
showed a concentration of .003 p	nm of phenols	which is helow	annlicable st	ate water :
	piii or prienors	, which is below	арриновие в	
quality standards.				•
G. CONTAMINATION OF SURFACE WATER				
20	%•		4	
See above				
				*
a a				
			DAC	ER0058064
				onlinue On Reverse

PAGE S OF 10

P. # __ T7070_7 /10_701

Y K Wolf DATE 4-27-80 SUBJECT DULJ D WAS I
HKD. BY DATE JOB NO.
The following is an estimate of current
Solid wastes generated by Oberdorter Loundry,
From Core Room! Aged core sands, scrap cores, and sweepings.
(3) Truck loads daily (15 cu.yds. or 21 Tons)
Total: 3600 cu.yds/yr or 5040 Tons/yr.
From Green Sand System Baghouse;
(1) Roura-hopper per day (300 lbs. average)
Total: 26.5 CU.yds./yr. or 37 Tons/yr
From Cleaning Room Dust Collector + Knock-out Hopper; Core Butts, Shake-out sand, sweepings, metal dust.
(3) Truck loads daily (15 cu.yds. or 21 Tons)
Total; 3600 cu, yds./yr. or 5040 Tons/yri
From Sand Storage baghouse i Sand fines.
(1) Barrel (55 gal. drum) per month
From Waste-Water Treatment Plant; Settled
(1) Ton/month (dry weight)
Total: 9 CU. yds/yr- or 12 Tons/yr.
Miscellaneous Solid Waste: Refractories, broken concrete flooring, excavated earth, etc.
Total; 15 cuydslynor 21 Tons/year
TOTAL: 7251 CU, YDS, PER YEAR
10.150 OR PER YEAR

NOTE; ONE TRUCK LOAD = 5 CU.YDS. Or 7 Tons Average. (13,980# Ac Kacerolosso)



P Wolf DATE 4		nd Dump	SHEET NO	(2 7)
		330ft)	R. R.	
298FE ROTH METALS	Capacity @ 10 ft 54,000 QU. Yds. @ 42,3 Tons/day =	DUMP AREA. Approx. 145, 800 Sq.		
4082	depth: or 73,000 Tons. 7.2 yrs	ft Area.	24.58E	
		100/5/	FENCE	
			RACER	0058067

NEW YORK STATE REGISTRY FORMS

HAZARDOUS WASTE DISPOSAL SITES REPORT NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Code: F	
Site Code: 734017	
Name of Site: Oberdorfer Foundries, Inc.	Region: 7
County: Onondaga	Town/Ciry DeWitt
Street Address Thompson Road, Syracuse (I	DeWitt)
Status of Site Narrative: Two dumps, one active and the other inactive, are Total area of the current site is approximately 3. at this site since 1922. The manufacturer disposed contaminated sand, refractory linings, bentonite a scraps including Al-fines, and baghouse dust. Che (phenol-formaldehyde, phenol-isocyanate, phenol-	.8 acres. The company has operated d of spent core sands, molding sands, and binder clay, metal oxides, metal mical binders such as phenolic resins
a a	
Type of Site: Open Dump 🖾 Treatmen Landfill 🔲 Lagoon(s Structure 💭	Number of Ponds
Estimated Size 3.75 Acres (Approximated Size 3.75 Acres	ate)
Hazardous Wastes Disposed? Confirmed (Suspected X
*Type and Quantity of Hazardous Wastes:	
TYPE	QUANTITY (Pounds, drums, tons, gallons)
	*
-	
* Use additional sheets if more space is ne	eded.
and madefaller altered by mate abase to lie	/— — — — — —

Name of Current Owner of Site: Oberdorfer Foundries, Inc.
Address of Current Owner of Site: Thompson Road, Syracuse (DeWitt)
Time Period Site Was Used for Hazardous Waste Disposal:
Is site Active Active (Site is inactive if hazardous wastes were disposed of at this site and site was closed prior to August 25, 1979)
Types of Samples: Air Groundwater None None Surface Water Soil
Remedial Action: Proposed Under Design Completed Nature of Action:
Status of Legal Action: None State - Federal -
Permits Issued: Federal Local Government SPDES Other Other Other Other
Assessment of Environmental Problems:
Assessment of Health Problems:
Persons Completing this Form:
L. M. Palladino
New York State Pennymore of Engineered Very Veri Company
New York State Department of Environmental New York State Department of Health Conservation
Date November 25, 1985